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# 22nd ANNUAL REPORT

FOR THE FISCAL YEAR  
ENDED MARCH 31st, 1971



Department of Lands & Forests  
of the Province of Alberta



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*TWENTY-SECOND  
ANNUAL REPORT*


OF THE  
DEPARTMENT OF LANDS AND FORESTS  
OF THE  
PROVINCE OF ALBERTA

FOR THE  
FISCAL YEAR ENDED MARCH 31st  
*1971*



EDMONTON:  
PRINTED BY L.S. WALL, QUEEN'S PRINTER  
*1971*





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**TO THE HONOURABLE GRANT MacEWAN**  
**Lieutenant-Governor of the Province of Alberta**

SIR:

I have the honour to submit the Report of the Department of Lands and Forests for the fiscal year ended March 31st, 1971.

I have the honour, to be, Sir,

Your obedient servant,

*DR. ALLAN A. WARRACK*

Minister of Lands and Forests

Edmonton, December 15th, 1971.







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**REPORT**  
**of the**  
**DEPARTMENT OF LANDS AND FORESTS**  
**1970 - 1971**

**HONOURABLE ALLAN A. WARRACK,**  
**Minister of Lands and Forests.**

SIR:

I have the honour to submit the annual report of the Department of Lands and Forests for the fiscal year ended March 31st, 1971.

Respectfully submitted,

*V.A. WOOD,*

Deputy Minister.

Edmonton, December 15th, 1971.





## PUBLIC LAND ADMINISTRATION

### REPORT OF THE DIRECTORS OF LANDS

*D.S. LAWSON*

During the period under review, increasing emphasis has been placed on participation in programs directed to agricultural development where the objectives are the creation of potentially economic farm units and stabilization of the viable family farm. At the same time there was continued provision for the orderly allocation of public lands for mineral, commercial and industrial purposes.

In all dispositions of public lands, special consideration was given to conservation and to protection of the environment.

#### HOMESTEAD SALES

There was a drop in the number of applications and sales issued but homestead sales continued to play an important part in assisting to establish potentially economic farm units. No new areas were opened for agricultural settlement during the year as the lands available continued to be sufficient to meet current requirements.

Assignment requirements for homestead sales were relaxed by certain amendments to the Public Lands Act and this had the result of significantly increasing the number of assignments processed this year. Applications for title continued at a fairly high rate.

#### SALES AND CULTIVATION LEASES

There has been an increase in the use of the Farm and Rural Adjustment Regulations as a vehicle for land disposition since these came into being in 1968. These regulations were amended in the fall of 1970 to bring them up to date with current thinking and wishes. These regulations apply to most areas of the province where there is still a significant amount of public land available for disposition. The basis for the increased interest in dispositions under these regulations appears to be the flexibility provided in the terms and conditions. Within quite broad limitations a sale, lease or an exchange may, for all intents and purposes, be tailor-made to fit the circumstances of the person being assisted.

Sale of land by public auction was severely restricted with only five parcels offered for sale. Of these only three were purchased. The selling of lands by unrestricted public auction does not appear to be in accord with the overall objectives of assisting farmers in acquiring potentially economic farm units.

#### FIELD INSPECTIONS

The continuing unsettled situation in the agricultural sector was reflected in the various purposes for which appraisals were completed. Particularly noticeable was the sharp decline in appraisals to accommodate primary settlements, as applied to individuals who are not farming or do not own agricultural land at the time of application. Opposed to this decline was a substantial rise in appraisals completed for purchase of farms from

individuals leaving farming for reasons of health or retiring due to age. Also on the increase were inspections to regulate and control surface activity in the oil, gravel, and mining industries.

Field staff consisted of 24 permanent and 3 temporary positions. A comprehensive in-service training program was completed and included were several instructional tours. The major tour involving all staff members dealt primarily with non-agricultural uses in the north-central area of the province. Stress was on environmental damage due to various surface activities and the remedies and precautions that must be adopted to repair or avoid such damage. Regional tours concentrated on the agricultural aspects of land management and here again environmental control was emphasized. As the majority of staff completed their formal university training at a time when range management courses were not given, arrangements were made through the Department of Extension to make available the basic course in range management to those who had not completed this training. The course was held in two one-week sessions during the winter months and eighteen staff members participated.

A statistical summary of requests for inspections and reports submitted appears in the statistics section.

## **CLASSIFICATION, CONSERVATION AND LAND USE PLANNING**

This section saw a continued increase in work load associated with the intensification of reservations and zoning requests initiated either by this division, or other divisions or departments within the government. In this regard, in conjunction with the field staff, large areas along rivers and lakes in central Alberta were studied and the appropriate reservations were initiated for conservation or recreational purposes.

A project initiated in 1970 was the setting aside of parcels of lands in the white and yellow zones of the province for natural areas. Approximately 35,000 acres, mainly in the Calgary and Edmonton districts were reserved for this purpose. This is a continuing program and as time permits additional areas in other parts of the province will be inspected, screened and set aside as natural areas.

With the continued and expanded emphasis on conservation and environmental control an increasing proportion of the work carried out by this section is related to strip mining, reclamation, oil and gas development, gravel removal and coal exploration programs. The Land Use Specialist has been active on several committees relating to these operations.

In addition, a large number of individual conservation and other land use problems were dealt with during the year.

The Land Use Specialist continued to act on the Grazing Reserves Advisory Committee. This committee reviews development plans on grazing reserves and community pastures, making recommendations relating to proper land use, etc.

In view of increasing emphasis on land use, conservation and planning and the resulting work load, an additional professional agrologist is being added to the section.



## GRAZING

The demand for grazing privileges on available public land continued at a steady rate during 1970 and early 1971. Beef prices in the latter half of 1970 were essentially the same as in the same period in 1969. The open grassland areas of Alberta are fully utilized and therefore the wooded areas of Alberta provide the only new native grazing available.

To encourage the development and improvement of these wooded areas, the Grazing Lease Improvement Regulations authorize financial assistance for grazing lessees wishing to convert brush covered public lands to improved pasture. Twenty-five applications for range improvement assistance received from individuals holding grazing leases were approved in the 1970-71 fiscal year.

Community pasture organizations (grazing associations) leasing grazing land from the department may obtain financial assistance for similar range improvement projects through an ARDA program. Under this program, the Canada and Alberta governments pay two-thirds and the community pasture organization pays one-third of the cost of the improvement project. Payments to six grazing associations were made this year.

Grazing conditions in 1970 were generally good throughout Alberta, except fair to good in parts of the Lethbridge area and between Grande Prairie and the Peace River.

The range survey section prepared an inventory and pasture management plan for one irrigated grazing reserve. Native forage production weights were obtained from several representative sites in grassland areas of southern and central Alberta. Two benchmarks were added to the network of benchmarks established in previous years on typical tracts of good to excellent condition native ranges, representative of the more common range types found in central and southern Alberta. A study to evaluate 2-4-D brush control on sandy range sites was initiated and the study to evaluate aerial grass seedling was continued. A range ecology study in southern and central Alberta was completed.

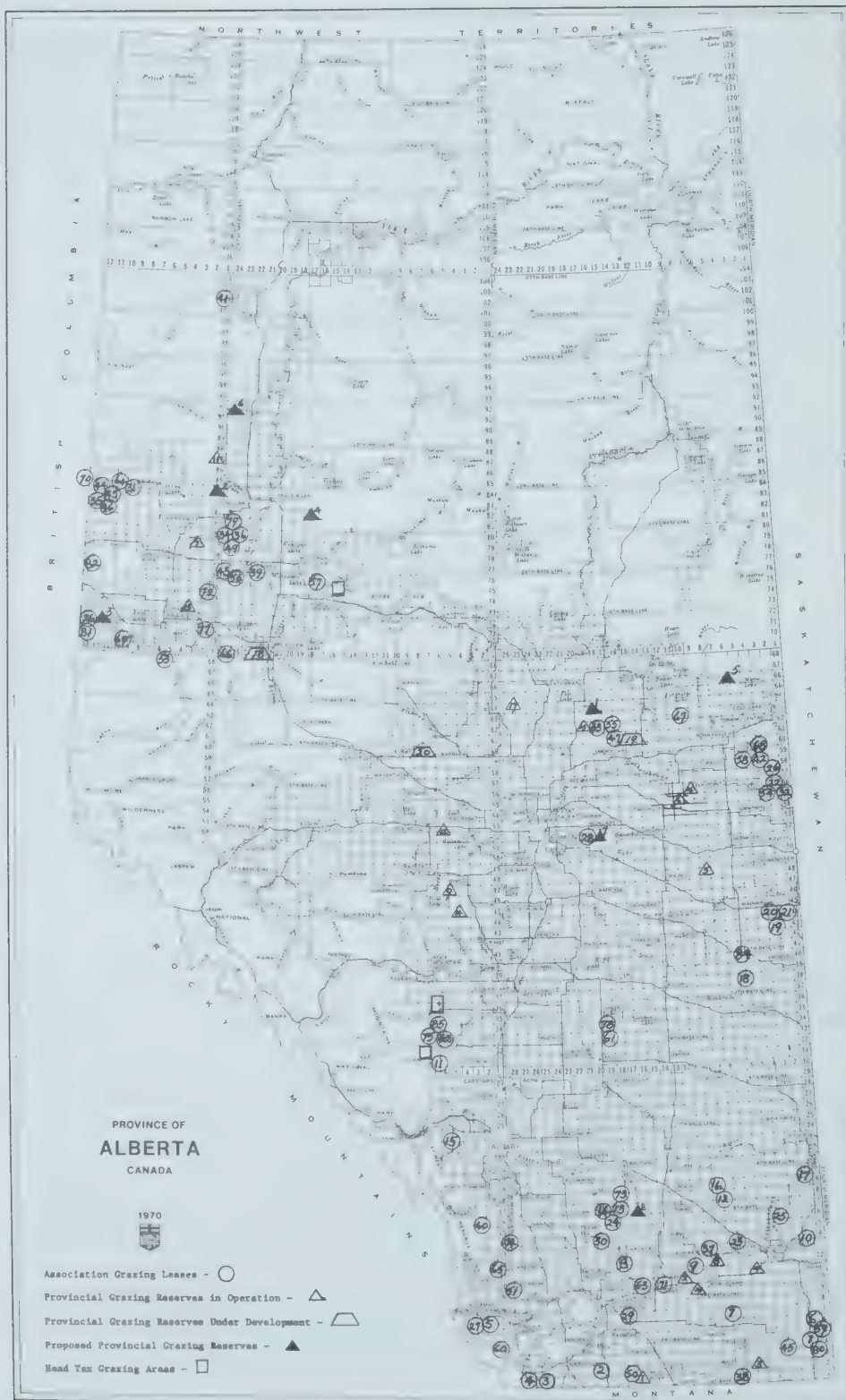
Members of the Grazing field staff assisted various members of the division's Appraisal Section in the identification of native plants and in the determination of grazing capacity.

The Grazing Lease Administration Section continued its program started in 1968 to encourage holders of grazing permits to convert their permits to long term grazing leases on land which had been inspected and found to be best suited for grazing. The program of consolidating two or more leases held by the same lessee was also continued.

Since January 1st, 1970, holders of public lands under lease or permit have been required to pay regular municipal taxes levied by municipal districts, counties or local improvement districts administered by the Department of Municipal Affairs.

As municipalities, counties and improvement districts cannot take tax recovery action against public lands held under a disposition, the department adopted administrative procedures to ensure that taxes are paid by lessee.

The Public Lands Act provides that each grazing lessee or permittee shall pay as annual rental such percentage of the forage value of the land contained in the grazing lease or grazing permit as is set by the Lieutenant-Governor in Council.





The formula for determining the forage value of an acre held under a grazing disposition is as follows:

$$\frac{250 \times P}{cc}$$

“250” represents the estimated gain in pounds of beef, “P” represents the weighted average price of beef on the Calgary market, not including choice grades, for the 6 month period preceding the rental year, and “cc” represents the carrying capacity expressed in the number of acres required to graze one animal unit (1,000 pound cow with calf under 6 months of age or their equivalent) for 12 months.

The average price of beef for the latter six month period for 1969 was 28.48 cents per pound as compared to 24.02 cents per pound for the same period in 1968.

The percentage of the forage value for each district to be used for calculating rental is 5% for Southern Alberta, 4 1/6% for Central Alberta and 2½% for Northern Alberta.

The rental charges for 1970 were set for each district as follows:

#### RENTAL PER ACRE FOR 1970

Carrying Capacity	A South District 5%	B Central District 4 1/6%	C North District 2½%
24	14¾¢	12½¢	7½¢
32	11¼¢	9¼¢	5½¢
40	9¢	7½¢	4½¢
50	7¢	6¢	3½¢
60	6¢	5¢	3¢

#### GRAZING ASSOCIATION LEASES

	Association	Map Location	Acreage	No. of Members	Head of Stock
1.	Barnwell Grazing Association	63	3,127.050	33	267
2.	Basin Valley Grazing Association	74	1,713.560	11	188
3.	Bear Canyon Grazing Association	35	1,433.500	7	63
4.	Beaver Valley Grazing Association	67	3,373.330	5	161
5.	Big 4 Lease Association	14	3,035.000	6	462
6.	Big Valley Grazing Association	48	320.000	5	12
7.	Blackfoot Grazing Association Ltd.	28	24,550.890	57	1,064
8.	Boon Creek Cattle Association	82	7,149.620	9	341

	Association	Map Location	Acreage	No. of Members	Head of Stock
9.	Boundary Creek Grazing Association	3	636.840	7	113
10.	B.T. Grazing Co-operative Ltd.	17	26,214.670	17	857
11.	Buffalo Park Grazing Association	84	25,265.500	37	3,057
12.	Bunker Hill Grazing Association	75	6,397.190	5	288
13.	The Burkes Lake Stockmans Association	32	3,622.000	12	434
14.	Butcher Creek Grazing Co-op Ltd.	60	1,432.410	11	267
15.	Campbell Creek Grazing Association	53	7,679.500	5	98
16.	Castle River Stock Association	27	6,159.192	9	324
17.	Clear Hills Community Grazing Association	55	9,517.400	18	564
18.	Clear River Grazing Association	44	3,491.600	1	65
19.	Clearwater Cattle Society	64	3,123.800	5	75
20.	Clearwater Light Horse & Rodeo Co-op Association Limited	31	154.500	27	42
21.	Comrey Grazing Co-operative Ltd.	1	29,953.680	20	1,257
22.	Cressday Grazing Association	80	12,032.660	11	395
23.	Cresthill Farmers Community Cattle Grazing Lease Association	24	13,754.040	10	550
24.	Deimuth Lease Association	8	1,716.080	5	75
25.	East Burnstick Grazing Association	85	9,829.190	7	539
26.	East Peoria Smoky Grazing Association	30	9,134.900	9	294
27.	Elk Island Grazing Association	34	1,936.390	5	74
28.	Fincastle Grazing Association	71	772.040	28	282
29.	Fir Grove Stock Association	5	4,342.677	7	193
30.	Forty Mile Grazing Association	9	28,967.430	44	967



	Association	Map Location	Acreage	No. of Members	Head of Stock
31.	Four Mile Creek Stock Improvement Association	43	22,361.750	9	648
32.	Frog Lake Cattle Association	42	10,288.570	6	596
33.	Garnier Lake Grazing Association	58	17,842.300	10	793
34.	Goodfare Grazing Association	76	9,620.300	13	319
35.	Green Prairie Grazing Group	13	2,875.000	5	136
36.	Hays Stock Grazing Association	37	15,458.804	12	524
37.	Highland Grazing Association	11	11,525.850	6	403
38.	Island Lake Grazing Association	47	5,760.190	3	276
39.	Jake's Butte Grazing Association	78	3,983.000	17	320
40.	Jumping Pound Stock Association	15	12,788.440	8	554
41.	Keg River Community Livestock Improvement Association	41	1,550.000	5	156
42.	Little Bow Grazing Association	30	4,337.100	30	362
43.	Little Smoky Grazing Association	39	11,086.200	13	459
44.	Lobley Grazing Association	62	5,033.500	5	99
45.	Lomond Grazing Association	24	82,305.990	170	4,846
46.	Long Valley Grazing Association	36	4,669.700	6	209
47.	Look See Grazing Association	73	5,315.50	5	271
48.	Lucky Lake Grazing Association	33	8,903.500	10	312
49.	Many Island Lake Grazing Association	10	17,565.280	25	881
50.	Milk River Co-op Grazing Association Limited	50	12,643.920	24	805
51.	Nemiscam Community Pasture Organization # 1	7	4,780.600	18	225
52.	Nemiscam Community Pasture Organization # 2	45	33,951.390	38	1,120

	Association	Map Location	Acreage	No. of Members	Head of Stock
53.	North Eaglesham Grazing Association	49	2,889.000	7	149
54.	North Goodwin Stock Improvement Association	72	11,867.350	15	393
55.	North Group Cattle Association	62	10,571.420	7	794
56.	North Wapiti Stock Improvement Association	69	6,705.100	7	146
57.	Old Frontier Grazing Association	54	10,207.350	20	1,527
58.	Peace Valley Stockmens Association	79	7,502.800	5	198
59.	Pipeline Grazing Association	23	30,330.840	21	1,233
60.	Poll Haven Community Pasture	4	10,462.200	43	589
61.	Rainy Hills Grazing Co-op Ltd.	12	19,184.240	17	659
62.	Ross Lake Community Pasture Association	2	4,473.000	30	501
63.	Round Up Ranch Co-op Limited	51	1,916.100	18	640
64.	Rowley Grazing Association	61	7,985.000	33	655
65.	Silver Valley Grazing Association	46	9,246.730	6	245
66.	Simonette Grazing Association	77	3,058.000	5	164
67.	Smoky Lake Grazing Association	68	11,362.980	12	463
68.	Spring Creek Grazing Association	66	6,366.100	5	139
69.	Spruce Ranching Co-operative	40	19,138.170	34	2,551
70.	Stirling Pasture Company Limited	29	722.370	21	152
71.	Stony Hills Grazing Co-op Limited	59	10,709.960	22	855
72.	The Blue Field Grazing Association	6	11,726.140	12	500
73.	The Chauvin District Grazing Association	21	1,264.750	12	187
74.	The Drowning Ford Grazing Association	25	33,069.500	82	1,857

	Association	Map Location	Acreage	No. of Members	Head of Stock
75.	The Dunn Lake Cattle Association	20	3,274.610	14	205
76.	The Lakes Grazing Association	18	1,906.760	5	244
77.	Tide Lake Grazing Association	16	15,988.910	13	450
78.	The Tulliby Lake Stockmans Association	26	16,748.600	28	1,338
79.	Waldron Grazing Co-operative Ltd.	65	15,581.580	95	4,253
80.	Winagami Grazing Association	57	3,996.000	3	252
81.	Windsor Creek Grazing Association	81	6,665.800	10	150
82.	Wolf Creek Grazing Association	70	7,153.600	5	—
83.	Writing On Stone Grazing Association	38	15,314.580	35	869
<b>TOTALS</b>			868,089.113	1,513	50,040

**ASSOCIATIONS HOLDING LAND UNDER ANNUAL GRAZING PERMIT**

Association	Location	Acreage	No. of Members
Bow Valley Riding Association	24 - 10 - W5	157	—
Lomond Grazing Association	16 & 18 - 17 & 18 - W4	2,814	170
Board of Trustees Eastern Irrigation District	15 & 16 - 16 - W4	4,880	15

**ASSOCIATIONS HOLDING GRAZING PERMITS – VAUXHALL AREA**

Association	Location	Acreage	No. of Members
East Hays Group	13 & 14 - 12 & 13 - W4	2,084	9
Hays Stock Grazing Association	11, 12 & 13 - 12 & 13 - W4	27,908	31
Riverbend Grazing Association	12 & 13 - 12 & 13 - W4	2,993	8
Vauxhall Grazing Association	11, 12, 13 & 14 - 14, 15 & 16 - W4	56,042	57



Association	Location	Acreage	No. of Members
West Group Hays	13 & 14 - 14 - W4	1,710	5

Where no facilities were provided by the department, grazing rental on a head tax basis was set as follows for 1970:

Grazing District "A" (South)	\$1.00 per month, per animal unit
Grazing District "B" (Central)	.80 per month, per animal unit
Grazing District "C" (North)	.60 per month, per animal unit

During 1970 the Vauxhall area was grazed by allotment holders, providing grazing for approximately 6,000 head of stock. Special arrangements are made with the Federal Government in this area.

In the Wainwright area on land leased by the Department of National Defence, the Buffalo Park, South Park and Hughendon Grazing Group graze lands and cut hay. During the 1970 season 894 tons of hay were cut by 13 members. There were 6,890 animal unit months of grazing used by stock belonging to 42 patrons of Buffalo Park and 6 patrons in the Hughendon Group.

#### HEAD TAX GRAZING AREAS

East Burnstick	Twp. 34, Rge. 6, W5th
North Burnstick	Twps. 35 & 36, Rges. 6 & 7, W5th
Northeast Burnstick	Twp. 35, Rge. 6, W5th
Northwest Burnstick	Twp. 35, Rge. 7, W5th
Southwest Burnstick	Twp. 34, Rge. 7, W5th
South Cow Creek	Twp. 38, Rges. 8 & 9, W5th
West Burnstick	Used with Southwest Burnstick
West End Stock Assoc.	Twps. 31 & 32, Rges. 6 & 7, W5th
Horse Lakes Grazing Assoc.	Twps. 75 & 76, Rge. 16, W5th

#### GRAZING RESERVES

Grazing rental on a per head basis for 1970 was set as follows:

Irrigated Grazing Reserves (4)	\$4.00 per A.U.M.*
Pinhorn Grazing Reserve	\$3.30 per A.U.M.

Twin River Grazing Reserve	\$3.30 per A.U.M.
Black Bear, Buck Mountain, Jack Pine, Medicine Lake, Minburn, Rannach, St. Paul & Thorhild Grazing Reserves	\$3.00 per A.U.M.
Wanham, Kleskun Lake & Whitemud Grazing Reserves	\$2.80 per A.U.M.
Kleskun Lake and Medicine Lake Grazing Reserves — Sheep	.015 per day — lamb without ewe .05 per day — lamb at foot

\*A.U.M. — animal unit month or per month per animal unit.

### UTILIZATION 1970 — PROVINCIAL GRAZING RESERVES

#### Northern & Central Alberta Provincial Grazing Reserves

	Acres	Patrons	A.U.M.'s	No. of Head
Black Bear	16,584	9	516	138
Buck Mountain	17,114	42	4,883	1,040
Jack Pine	11,124	19	1,242	351
Kleskun Lake (Cattle)	11,357	16	1,487	340
Medicine Lake	5,584	1	15	5
Minburn	13,527	69	5,137	1,212
Rannach	16,515	70	4,978	1,073
St. Paul	7,821	24	2,153	471
Thorhild	17,345	19	1,607	439
Wanham	15,881	46	4,614	1,228
Whitemud	23,262	8	1,321	323
SUB-TOTAL	156,114	323	27,953	6,181

Connor Creek\*

Smoky Lake\*

\*Partially in operation — Head Tax Grazing Permit

**Southern Alberta Provincial Grazing Reserves**

	Acres	Patrons	A.U.M.'s	No. of Head
Bow Island	38,920	75	9,537	2,309
Pinhorn	75,022	105	11,730	2,747
Purple Springs	1,909			
Grassy Lake	3,173	66	6,204	1,491
Seven Persons	6,174	48	3,559	793
Twin River	30,332	68	8,585	2,260
SUB-TOTAL	155,530	362	39,615	9,600
GRAND TOTAL	311,644	685	67,568	15,781

**Sheep Provincial Grazing Reserves**

	Acres	Patrons	A.U.M.'s	No. of Head
Kleskun Lake	11,357	20	867	2,219
Medicine Lake	5,584	28	1,480	2,542
	16,941	48	2,347	4,761

On the Central Alberta Provincial Grazing Reserves sample weighing carried out by S.G. Klumph, Supervisor showed average gains for the 1970 season as follows:

	Minburn	Rannach	Buck Mountain
Calves (mixed)			
Seasonal gain	282.00	322.00	302.00
Daily gain	1.97	2.20	1.80
Days on pasture	150	154	167
Heifers (yearling)			
Seasonal gain	200.00		150.00
Daily gain	1.38		.97
Days on pasture	139		154
Steers (yearling)			
Seasonal gain	181.41		
Daily gain	1.71		
Days on pasture	105		



On the Southern Alberta Provincial Grazing Reserves sample weighing carried out by E. R. Edwards, Supervisor, showed average gains for the 1970 season as follows:

Pounds Gained	Bow Island	Pinhorn	Purple Springs	Seven Persons	Twin River
Calves—heifer					
Seasonal	249.00	302.0	258.0	294.0	270.00
Daily	1.66	1.82	2.13 (mixed)	1.9 (mixed)	1.78
Days on reserve	150	166	121	155	152
Calves—steer					
Seasonal	289.0	277.0	—	294.0	299.0
Daily	1.93	1.67	—	1.9 (mixed)	1.97
Days on reserve	150	166		155	152
Cows					
Seasonal	88.0	152.0	70.0	175.0	119.0
Daily	.59	.92	.49	1.13	.78
Days on reserve	150	166	143	155	152
Heifers—yearling					
Seasonal	182.0	249.0	183.0	219.0	262.0
Daily	1.17	1.78	1.28	1.35	1.5
Days on reserve	155	140	143	155	175
Steers—yearling					
Seasonal	188.0 (Sept. 15) 217.0 (Oct. 16)	270.0	121.0	—	305.0
Daily	1.53 (Sept. 15) 1.41 (Oct. 16)	1.93	1.00	—	2.15
Days on reserve	123 & 154	140	121		142

### PROVINCIAL GRAZING RESERVES IN OPERATION

#### Central and Northern Alberta

	Map No.	
Black Bear	17	Twp. 64, Rges. 25 & 26, W4 Mer.
Buck Mountain	9	Twp. 47, Rges. 5 & 6, W5 Mer.
Jack Pine	12	Twps. 52 & 53, Rge. 6, W5 Mer.
Kleskun Lake	13	Twp. 73, Rge. 4, W6 Mer.
Medicine Lake	14	Twp. 45, Rges. 4 & 5, W5 Mer.
Minburn	5	Twps. 48 & 49, Rge. 9, W4 Mer.

	Map No.	
Rannach	6	Twps. 55 & 56, Rges. 10 & 11, W4 Mer.
St. Paul	16	Twp. 56, Rges. 9 & 10, W4 Mer.
Thorhild	15	Twp. 62, Rges. 18 & 19, W4 Mer.
Wanham	7	Twps. 79 & 80, Rges. 2 & 3, W6 Mer.
Whitemud	11	Twp. 87, Rges. 26 & 1, W5 & W6 Mer.

**Southern Alberta**

	Map No.	
Bow Island	8	Twps. 12, 13 & 14, Rges. 10 & 11, W4 Mer.
Pinhorn	3	Twps. 1, 2 & 3, Rges. 6, 7 & 8, W4 Mer.
Purple Springs & Grassy Lake	2 10	Twp. 10, Rges. 13 & 14, W4 Mer.
Seven Persons	4	Twp. 11, Rge. 7, W4 Mer.
Twin River	1	Twp. 2, Rges. 18 & 19, W4 Mer.

**PROVINCIAL GRAZING RESERVES UNDER DEVELOPMENT**

	Map No.	
Connor Creek	20	Twps. 59 & 60, Rges. 7 & 8, W5 Mer.
Smoky Lake	19	Twps. 60 & 61, Rges. 14 & 15, W4 Mer.
Valleyview	18	Twps. 68 & 69, Rge. 23, W5 Mer.

**PROPOSED PROVINCIAL GRAZING RESERVES (Dry Land)**

	Map No.	
Athabasca	1	Twps. 63 & 64, Rge. 18, W4 Mer.
Cardinal Lake	2	Twp. 84, Rge. 1, W6 Mer.
Goodfare	3	Twps. 71 & 72, Rge. 13, W6 Mer.
Harmon	4	Twp. 82, Rges. 17 & 18, W5 Mer.
Wolf Lake	5	Twps. 65 & 66, Rges. 4, 5, 6, 7, W4 Mer.
Manning	6	Twps. 91 & 92, Rge. 24, W5 Mer.

Blackfoot	Map No. 7	Twp. 52, Rge. 20, W4 Mer.
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**PROPOSED PROVINCIAL GRAZING RESERVES (Irrigated)**

B. R. D. North	Map No. 8	Twp. 17 & 18, Rge. 18, W4 Mer.
B. R. D. East	8	Twp. 16 & 17, Rges. 17 & 18, W4 Mer.

**PROVINCIAL GRAZING RESERVES – DEVELOPMENT – 1970**

During the fiscal year ending March 31, 1971 development was carried out on Provincial Grazing Reserves as follows:

**BLACK BEAR**

- 50 acres broken and seeded
- 12 1/3 miles of fence constructed
- corrals constructed
- 1 dugout constructed
- residence at headquarters constructed

**BOW ISLAND**

- 1,040 acres rototilled and seeded
- 5½ miles of fence constructed
- bunkhouse built and painted
- barn painted
- new corral partially constructed on north side

**BUCK MOUNTAIN**

- 2,909 acres cleared
- 2 miles of fence line cleared – 36 acres
- 1,070 acres broken and seeded
- 4 miles of fence constructed
- 2 dugouts constructed



## CONNOR CREEK

- 200 acres cleared
- 30 miles of fence constructed
- 67½ miles of fence line cleared — 2845 acres

## GRASSY LAKE

- 350 acres of dryland prepared and seeded

## JACK PINE (Stony Plain)

- 1,416 acres cleared
- 4½ miles of fence line cleared — 182 acres
- 1,832 acres broken and seeded
- 6 dugouts constructed
- 16 miles of fence constructed

## KLESKUN LAKE

- 6½ miles of fence line cleared — 393 acres
- 34 acres cleared
- corrals constructed
- 2 wells drilled
- 16 dugouts constructed

## MEDICINE LAKE

- 1,040 acres cleared
- 1,206 acres broken
- 1,069 acres seeded
- 4¾ miles of fencing
- corrals constructed
- 1 dam built

## MINBURN

- 5 miles of fence line cleared — 547 acres

- 120 acres of land cleared
- 1,500 acres broken and seeded
- 800 acres aerially sprayed
- corrals improved

#### PINHORN

- all out buildings painted
- 5 miles of fence constructed

#### PURPLE SPRINGS

- 120 acres of land levelled
- new corral constructed

#### RANNACH

- 781 acres broken and seeded
- ½ mile of fence line cleared
- 1 well drilled
- 1 utility building constructed

#### SEVEN PERSONS

- 78 acres of levelled land seeded
- 3 miles of fence constructed
- bunkhouse built and painted
- barn painted
- two new loading chutes added to corrals

#### SMOKY LAKE

- 3,670 acres cleared
- 1 dugout constructed
- 20¼ miles fenced

#### ST. PAUL

- 3,660 acres cleared

- 4 dugouts constructed
- 11 miles of fence constructed
- 800 acres aerial sprayed

#### THORHILD

- 1½ miles of fence line cleared — 60 acres
- 3,911 acres cleared
- 1,002 acres broken
- 390 acres seeded

#### TWIN RIVER

- new corral constructed
- barn painted

#### VALLEYVIEW

- 18 miles of fence line cleared — 721 acres

#### WANHAM

- 2,022 acres cleared
- 1,030 acres broken and seeded
- 2 dugouts constructed
- 16½ miles of fence constructed

#### WHITEMUD

- 552 acres cleared
- 460 acres broken and seeded
- 2 dugouts constructed

The value of these developments totalled approximately \$706,000.00.

#### SPECIAL LAND USE

The demand for recreational lands remain high, especially for recreational cottage lots. New subdivisions advertised were Martin Beach located on Lesser Slave Lake and the balance of the lots in Burnstick Lake and Calling Lake. There was a keen demand for lots in each of these subdivisions for the 28 lots offered in Burnstick Lake; approximately 300



people were interested in acquiring leases. In Calling Lake for the 58 lots available, over 250 people were interested, while at Marten Beach for the 53 lots offered, approximately 120 people showed interest by participating in the draw.

During this fiscal year one site for commercial hunting and fishing lodge purposes was advertised and an application was accepted. This site is located in the Sherman-Meadows area, south-west of Grande Prairie. Also during this fiscal year the department invited development proposals for the construction of a commercial resort complex in the Cline River area and an application was accepted for this.

Interest in lands for mineral development remained high. In addition to petroleum and natural gas, the branch was actively involved in many meetings in connection with construction of gas plants and development of coal mines. Meetings on a monthly basis were held with one coal producer, together with representatives of other interested departments. Meetings were also held with other coal producers when a need developed to discuss proposals and plans.

Coal exploration was quite active in the foothills area of the province with 40 new programs approved along with 21 amendments to existing programs.

#### STATISTICS – PUBLIC LAND DIVISION

		1969 – 1970		1970 – 1971	
HOMESTEAD LEASES – CIVILIAN	No.	Area	No.	Area	
In effect April 1,	1,489	383,837.74	1,271	326,995.11	
Reinstated & added by amendment	1	332.58	0	490.99	
Patented	164	40,985.84	122	29,746.41	
Cancelled	55	16,189.37	24	6,479.56	
In effect March 31,	1,271	326,995.11	1,125	291,260.13	
HOMESTEAD LEASES – VETERAN					
In effect April 1,	160	45,524.47	140	40,614.06	
Reinstated & added by amendment	1	322.20			
Patented	20	5,073.08	7	1,755.05	
Cancelled	1	159.53	2	633.68	
In effect March 31,	140	40,614.06	131	38,225.33	
HOMESTEAD SALES – CIVILIAN					
In effect April 1,	4,488	1,208,488.89	4,322	1,164,464.72	

	1969 – 1970		1970 – 1971	
	No.	Area	No.	Area
Reinstated			1	631.00
Granted	405	115,674.27	99	27,884.56
Patented	207	52,902.88	133	31,636.44
Cancelled	364	106,795.56	258	73,660.26
In effect March 31,	4,322	1,164,464.72	4,031	1,087,683.58

## HOMESTEAD SALES – VETERAN

In effect April 1	143	42,365.36	136	41,391.97
Granted	9	3,193.95	5	1,282.00
Patented	6	1,597.00	5	1,586.10
Cancelled	10	2,570.34	9	2,395.03
In effect March 31	136	41,391.97	127	38,692.84

## HOMESTEAD LOANS

In effect April 1,	1,094		985	
Granted	1		0	
Cancelled	17		2	
Paid in Full	93		62	
In effect March 31,	985		921	

## HOMESTEAD LEASE LOAN SALES

In effect April 1,	73	18,465.65	60	15,278.29
Granted	6	1,750.87	10	2,692.92
Patented	19	4,938.23	16	4,138.98
Cancelled	0	0	0	0
In effect March 31,	60	15,278.29	54	13,832.23

## CROP SHARE LEASES – CLEARING PROJECT

In effect April 1,	1	316.97		
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	1969 – 1970		1970 – 1971	
	No.	Area	No.	Area
Reinstated	0	0		
Cancelled	1	316.97		
In effect March 31,	0	0		

## PURCHASE AGREEMENTS – CLEARING PROJECT

In effect April 1,	32	10,262.04	29	9,300.70
Granted	0	0	0	0
Patented	3	961.34	3	962.00
Cancelled	0	0	0	0
In effect March 31,	29	9,300.70	26	8,338.70

## SEED CROP LEASES

In effect April 1,	3	9,656.60	3	9,656.60
Issued	0	0	0	0
Cancelled	0	0	0	0
In effect March 31,	3	9,656.60	3	9,656.60

## RIGHTS OF ENTRY

In effect April 1,	5,838	5,841
Issued	43	32
Cancelled	40	34
In effect March 31,	5,841	5,839
Letters of Authority Issued	—	19
Letters of Authority Cancelled	—	0

## ACCRUED AREA LEASES

In effect April 1,	55	3,654.82	9	707.50
Issued	0	0	0	0

	1969 – 1970		1970 – 1971	
	No.	Area	No.	Area
Cancelled	46	2,947.32	1	121.00
In effect March 31,	9	707.50	8	586.50
PUBLIC LAND SALES				
In effect April 1,	1,412	211,746.93	1,296	193,312.24
Granted	217	11,226.24	128	2,987.03
Patented	327	28,656.11	259	24,375.53
Cancelled	6	1,004.82	3	484.31
In effect March 31,	1,296	193,312.24	1,162	171,439.43
AGRICULTURAL FARM SALES				
In effect April 1,	1,764	320,089.62	1,869	341,924.57
Granted	263	48,925.88	142	26,260.09
Patented	152	25,504.31	122	20,272.34
Cancelled	6	1,586.62	23	2,094.32
In effect March 31,	1,869	341,924.57	1,866	345,818.00
FARM & RURAL ADJUSTMENT SALES (Farm Consolidation Sales)				
In effect April 1,	24	8,533.25	68	22,983.91
Granted	46	15,084.63	46	11,883.80
Patented	0	0	1	156.99
Cancelled	2	633.97	2	646.24
In effect March 31,	68	22,983.91	111	34,064.48
FARM & RURAL ADJUSTMENT LEASES				
In effect April 1,			0	0
Issued			31	7,453.18
Cancelled			1	320.00



	1969 – 1970		1970 – 1971	
	No.	Area	No.	Area
In effect March 31,			30	7,133.18
CULTIVATION LEASES				
In effect April 1,	706	136,627.62	668	128,405.74
Issued	228	44,307.08	88	16,151.64
Cancelled	266	52,528.96	103	19,325.74
In effect March 31,	668	128,405.74	653	125,231.64
SAND & GRAVEL LEASES				
In effect April 1,	400		398	
Issued	39		57	
Renewed	22		15	
Cancelled	41		59	
In effect March 31,	398		396	
SAND & GRAVEL LICENCES				
Issued	163		164	
SAND & GRAVEL EXPLORATION LICENCES				
Issued	2		13	
QUARRYING LEASES				
In effect April 1,	3		2	
Issued	0		0	
Cancelled	1		0	
In effect March 31,	2		2	
MISCELLANEOUS LEASES				
In effect April 1,	388	63,723.65	378	63,523.77
Reinstated	0	0	1	0
Issued	38	6,246.92	56	4,543.57

	1969 – 1970		1970 – 1971	
	No.	Area	No.	Area
Cancelled	48	6,446.80	64	2,781.77
In effect March 31,	378	63,523.77	371	65,285.57
MISCELLANEOUS PERMITS				
Issued	1,111		795	
MISCELLANEOUS TOWNSITE LEASES				
In effect April 1,	537		582	
Issued	151		254	
Cancelled	106		56	
In effect March 31,	582		780	
RECREATIONAL LEASES				
In effect April 1,	179	9,987.13	184	10,425.66
Issued	7	552.57	9	416.20
Cancelled	2	114.04	3	466.10
In effect March 31,	184	10,425.66	190	10,375.76
LICENCES OF OCCUPATION				
In effect April 1	1,773		1,860	
Issued	291		179	
Cancelled	204		111	
In effect March 31,	1,860		1,928	
Letters of Authority Issued			533	
Letters of Authority Cancelled			38	
EASEMENTS				
In effect April 1	2,670		2,855	
Issued	237		170	
Cancelled	52		41	

	1969 – 1970		1970 – 1971	
	No.	Area	No.	Area
In effect March 31,	2,855		2,984	
Letters of Authority Issued	—		135	
Letters of Authority Cancelled	—		3	
MINERAL SURFACE LEASES				
In effect April 1,	4,322	116,551.96	4,646	120,677.59
Issued	533	5,453.68	570	3,507.70
Cancelled	209	1,328.05	240	1,738.54
In effect March 31,	4,646	120,677.59	4,976	122,446.75
Letters of Authority Issued	—		777	
Letters of Authority Cancelled	—		48	
TOWNSITE LEASES				
In effect April 1,	1	32.00	1	32.00
Issued	0	0	0	0
Cancelled	0	0	0	0
In effect March 31,	1	32.00	1	32.00
PIPELINE AGREEMENTS				
In effect April 1,	3,123	35,241.34	3,520	41,595.43
Added by amendment	0	0	0	6.69
Issued	400	6,399.58	308	4,400.24
Deleted by amendment	0	0	0	17.65
Cancelled	3	45.49	5	25.56
In effect March 31,	3,520	41,595.43	3,823	45,959.15
Letters of Authority Issued			429	
Letters of Authority Cancelled			18	

	1969 – 1970		1970 – 1971	
	No.	Area	No.	Area
PIPE LINE INSTALLATIONS				
In effect April 1,	140	325.96	158	346.13
Issued	19	26.48	35	111.64
Cancelled	1	6.31	1	1.68
In effect March 31,	158	346.13	192	456.09
Letters of Authority Issued			26	
Letters of Authority Cancelled			1	
GRAZING LEASES				
In effect April 1,	4,366	4,560,151.36	4,537	4,717,865.81
Issued	311	214,531.31	328	155,105.52
Area added by amendment		73,051.95		87,117.29
Cancelled	140	77,280.37	223	112,785.82
Area deleted by amendment		52,588.44		32,352.99
Renewed	248		168	
In effect March 31,	4,537	4,717,865.81	4,642	4,814,949.81
GRAZING PERMITS				
Issued	1,968	553,604.76	1,588	419,837.01
HAY PERMITS				
Issued	410		336	
Tons cut	5,209.50		4,128.00	
INSPECTIONS				
GENERAL				
Outstanding April 1,	1,253		1,053	
Requested	3,024		3,738	
Completed	3,411		3,455	



	1969 – 1970		1970 – 1971	
	No.	Area	No.	Area
Outstanding March 31,	1,053		1,549	
SOIL SURVEY				
Outstanding April 1,	1,445		813	
Requested	1,580		1,700	
Completed	3,024		2,367	
Outstanding March 31,	813		865	
AUCTION SALES				
Public Lands Listed	38		5	
Public Lands Sold	37		3	
Highest Price Per Acre	\$34.00		\$66.10	
Average Price per Acre	\$9.26		\$48.22	

## TRANSFER OF ADMINISTRATION &amp; CONTROL

## DEPARTMENT OF MUNICIPAL AFFAIRS

Parcels *	35	4,031.34	37	4,612.18
Lots	4		20	

## DEPARTMENT OF AGRICULTURE

Parcels	10	1,545.12	16	896.59
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## DEPARTMENT OF PUBLIC WORKS

Parcels	1	1.45	3	35.08
River lots	0		1	265.99

## DEPARTMENT OF HIGHWAYS &amp; TRANSPORT

Parcels	0		1	3.17
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## DEPARTMENT OF SOCIAL DEVELOPMENT

Parcels	0		24	3,697.88
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	1969 – 1970		1970 – 1971	
	No.	Area	No.	Area
<b>FREE GRANTS</b>				
Parcels	11	384.31	3	9.44
Lots	2		0	
<b>REVESTMENTS</b>				
<b>EXCHANGE OF LANDS</b>				
Parcels *	30	4,291.93	12	1,807.20
<b>LAND ASSEMBLY PROGRAM</b>				
Parcels	292	41,630.91	295	41,987.60
Lots	13		30	
<b>MISCELLANEOUS</b>				
Parcels	6	646.00	3	6.63
Lots	88		0	

\* one-quarter section or part thereof

	<b>APPLICATIONS</b>			
	No. Received	No. Cancelled	No. Received	No. Cancelled
Grazing Leases (new)	614	145	524	159
Grazing Leases (renewal)	215	15	303	2
Homestead Sales	403	165	288	176
Mineral Surface Leases	840	236	765	204
Pipe Line Agreements	527	61	390	38
Pipe Line Installations	34	0	26	4
Cultivation Leases	264	100	123	25
Purchases	284	102	193	101
Miscellaneous Leases	185	149	125	89

	No. Received	No. Cancelled	No. Received	No. Cancelled
Miscellaneous Townsite Leases	154	37	215	87
Renewal Miscellaneous Leases	16	0	4	0
Renewal Miscellaneous Townsite Leases	18	0	3	0
Recreational Leases	24	11	34	13
Renewal Recreational Leases	1	0	0	0
Licences of Occupation	578	225	470	198
Easements	213	22	130	12
Sand & Gravel Leases	82	48	78	28
Renewal Sand & Gravel Leases	11	0	3	0
Rights of Entry	84	21	52	22
Agricultural Farm Sales	320	135	343	182
Farm & Rural Adjustment Sales (Farm Consolidation Sales)	95	83	205	106
Farm & Rural Adjustment Leases	0	0	13	1
TOTAL:	4,962	1,571	4,287	1,447

**ALBERTA FOREST SERVICE****REPORT OF THE DIRECTOR***R.G. STEELE*

The most significant development in Alberta's forest industry during the year was the commencement of construction of a bleached kraft pulp mill near Grande Prairie. The plant will be operated by Procter and Gamble Cellulose Co. and is expected to be in production by the summer of 1973.

The lumber market was generally poor during the year but because the initial five year phase of the quota system was to terminate early in 1971 lumber operators produced a new high in volume of lumber in order to meet timber quota commitments. The total of other products fell off slightly.

A new Forests Act and new Forest and Prairie Protection Act were drafted for presentation to the Legislature in 1971.

The fire season of 1970 set a new record for fire incidence with lightning being the largest single cause. Suppression costs are increasing rapidly with greater use of aircraft. Para cargo dropping on an organized basis commenced with the employment of a para cargo officer.

An important decision by the government now permits the charging of reclamation of areas burnt by fire as a fire cost. Where fires, or the suppression action on them, results in erosion and stream sedimentation problems the affected areas may be treated and restored and the costs charged to the fire.

The building, road and airstrip maintenance and construction program continued but at a reduced level. Use of larger aircraft, particularly for retardant bombing, has necessitated the extension and improvement of airstrips.

Centralization of ranger district staff in the Crowsnest Forest into Blairmore and amalgamation of the Crowsnest and Bow River Forests are continuing on schedule.

Approval was received to increase facilities at the Forestry Training School at Hinton. This will allow expansion of the Forest Technology Course as well as the many in-service training programs.

The Forest Land Use Branch has been developing its programs as positions are being filled by qualified staff. Although oil and gas exploration and development has levelled off, the interest in coal has increased significantly together with public concern over environmental disturbances.

Greater detail is presented hereunder in the reports of the branches.



## CONSTRUCTION AND MAINTENANCE BRANCH

### ROADS, BRIDGES AND AIRSTRIPS

Area and route studies, special investigations, and road location surveys were carried out throughout the province. Site surveys and plans were completed for several bridge sites, roads and airstrips. General engineering assistance was provided Forest road foremen.

#### Construction

Major construction projects initiated or completed during the year are outlined below:

#### ROADS:

Fort Vermilion-Wadlin Lake Road, Footner Lake Forest, completed to Mile 62 and crushed gravel applied to entire road — \$103,000.

Graham Lake Access Road, Slave Lake Forest, eleven miles of grading completed — \$181,000.

Minnow Lake Road, Edson Forest, fifteen miles of grading — \$140,000.

Medicine Lodge Road, Edson Forest, 7.5 miles of new grade and three miles upgrading — \$69,000.

Sandy Lake Road, Slave Lake Forest, survey and r/w clearing completed — \$89,000.

Rock Lake Road, Edson Forest, three miles new construction — \$20,000.

Two Lakes Road, Grande Prairie Forest, final seven miles of grade completed — \$77,000.

Chinchaga Tower Road, Peace River Forest, upgrading five miles completed — \$24,000.

Thickwood Road, Athabasca Forest, crush gravel — \$20,000.

#### BRIDGES:

Sandy Lake Road, Slave Lake Forest, three precast bridges constructed, total length 138' — \$35,000.

Pembina Bridge, Edson Forest, running deck and paint — \$3,000.

James River Bridge, Bow Forest, 112' steel span (used) — \$20,000.

Blackstone River Bridge, Clearwater-Rocky Forest, a 328' steel truss bridge (used) construction not complete — \$143,000.

Nordegg River Bridge, Clearwater-Rocky Forest, 252' precast — \$42,000.

Brewster Creek Bridge, Clearwater-Rocky Forest, 42' precast — \$10,000.

Jumping Pound Road, Bow Forest, four small treated timber bridges replaced — \$30,000.

Athabasca East & West Roads, Lac La Biche Forest, three precast bridges total length 104' — \$32,000.

#### AIRSTRIPS AND AIRPORTS:

For Chepewyan Airport, Athabasca Forest, a rebuilt crusher was purchased to crush gravel for the reconstruction of the runway — \$62,000.

Wabasca Airstrip, Slave Lake Forest, regrade and crush gravel for runway — \$9,000.

Steen Airstrip, Footner Lake Forest, extended and upgraded to DC3 standards — \$7,000.

#### Maintenance

Planned maintenance was carried out on 4,000 miles of Forestry roads. The gravel resurfacing program on the Trunk Road involved 100 miles in the Bow and Clearwater-Rocky Forests.

Maintenance costs during the year amounted to \$451,070 as follows:

Roads and Bridges	\$380,170
Airstrips	\$ 33,900
Airports	\$ 37,000

#### BUILDINGS

New and replacement buildings were constructed at a cost of \$200,470.00 and included three ranger district offices at Grande Cache, Turner Valley and the Elbow District in the Bow Forest. Two garage-cache combinations were built at Grande Cache and Turner Valley and a replacement garage was constructed at the Footner Lake Airport.

The following chart reflects the 1970-71 construction program and includes an updated inventory of Forest Service buildings.

TYPE OF BUILDING	New Buildings Constructed 1970	Replaced or Renovated 1970	Inventory 1970
Primarily Lookouts	Nil		145
Secondary Lookouts	2		38
Garages	Nil		55
Garage-Cache Combination	2		20

TYPE OF BUILDINGS	New Buildings Constructed 1970	Replaced or Renovated 1970	Inventory 1970
Tool Caches	Nil		62
Lookout Cabins	Nil	2	112
Engine Houses	Nil	3	145
Barns	Nil		17
Recreation Areas	Nil		94
Recreation Areas with Shelter	Nil		54
Stopover Cabins and Bunkhouses	Nil		114
Trailer 3 B.R.	1		8
Offices	3	2	23
Airport Garage	Nil	1	3
Airport Administration Bldg.	Nil		2
Miscellaneous Buildings:			
Speeder Sheds, Crew Trailers			
Fuel Caches			
Remote Receiver Sheds			
Fire Holding Camps			
Fire Bomber Buildings	6	1	310
TOTAL	14	9	1,202

The Prefabrication and Carpentry Shop at the Forestry Depot continued to provide services such as sign blanks, equipment boxes, roof rafters and precut material for new buildings such as offices, bunkhouses and caches. In addition the Carpentry Shop constructed three engine houses, one tower cabin, three bomber base offices and two crew trailers.

The A.F.S. Sign Shop produced 1,905 signs of various sizes.

## MECHANICAL

The Mechanical Section, during the 1970-71 fiscal year, laid out specific policies regarding the effective handling of its repair program. Several directives were drawn up and distributed, outlining the more troublesome areas.

A uniform policy was developed with regard to the purchasing of smaller items required for the maintenance and repair of vehicle and mobile equipment in the Alberta Forest Service. Large volume items, such as oil, oil filters, gasoline, antifreeze, and others,

are ordered in bulk to facilitate more effective handling of these requirements at a substantial saving of the department's time, effort and funds.

More complex procedures required in the purchasing of larger equipment, ie, trucks and mobile equipment, have been standardized to reduce time consuming research. The present motor vehicle fleet increased from 337 to 349 during 1970-71 due chiefly to new positions and increased requirements.

In the heavy construction equipment category two industrial wheeled tractors were purchased as well as one rebuilt gravel crusher and a gravel screening plant.

Many new types of equipment were evaluated in order to determine which were the best to meet Alberta Forest Service needs.

The Mechanical Section now handles all the major repair jobs on vehicles, mobile equipment and power plants. The repair of fire pumps, chain saws and other types of small motorized equipment has also been centralized and takes place on a stock advance basis.

Initiated in the latter part of the 1969-70 fiscal year, the Alberta Forest Service Transport Service, operating out of the Edmonton Depot with two tandem tractor units, three highboys and one lowboy, hauled approximately 4,000 tons of material and equipment and in doing so travelled 96,000 miles on 468 assignments.

The section provided assistance to the Northern Alberta Institute of Technology with short courses on Wajax Fire Pumps, Vehicle Maintenance and Small Engines Operation and Care, for students participating in the Industrial Forestry Course. The preliminary background for offering Defensive Driving Courses to Forestry staff throughout the province has been completed, and courses will be offered in the 1971-72 fiscal year to all Forests wishing to participate.

Of the responsibilities listed above, the maintenance and repair of the Alberta Forest Service Head Office fleet, fire pump repairs and power maintenance and repair were most demanding on the section's time and resources.

## **EQUIPMENT DEVELOPMENT**

Four projects were approved for research and development in 1970.

### **1. Back Pack Flame Thrower**

The back pack flame thrower feasibility study (Phase I) was completed, resulting in the design and construction of one unit. Preliminary tests indicated that the unit operated satisfactorily. A number of tests using several different types of fuels were conducted. Gelled gasoline proved to be the most effective. The unit will be field tested for operational results and reports evaluated in 1971.

### **2. Disposable Sleeping Bags**

Five different types of disposable sleeping bags were field tested. From results of these tests the Equipment Development Section designed the A.F.S. disposable sleeping bag. This bag has better insulation qualities and design features than bags obtained from other forest services and private industries.



### 3. Disposable Tents

Field tests were carried out last year with disposable tents. The type of tent and material involved proved unsatisfactory and, as a result, five more tents, made of Fabrene, an oriented polyolefin material, have been designed and will be field tested in 1971.

### 4. Slip-On-Tank

A portable aluminum water tank was equipped with a Honda positive displacement pump, twenty feet of 1-½ inch suction hose and three hundred feet of one inch discharge hose. Complete unit, weighing slightly more than 300 pounds with a water capacity of 225 gallons, can be slid on and off of a ½ or ¾ ton truck by two men. Pump is set up to pump water from the water source to tank, tank to fire or water source to fire. Tests will be conducted and evaluated by field staff in 1971.

## FOREST LAND USE BRANCH

### LAND USE RESEARCH

#### **Erosion Control —**

Plans and cost estimates were drafted for an erosion control operation to be carried out on a 4,000 acre burn, DB7-4-70, in the Bow River Forest. The use of helicopter seeding apparatus on an operational scale will be tested.

Maintenance of the climatological and suspended sediment sampling networks in the Swan Hills watershed was continued. Assistance was provided to the Geological Survey of Canada in a study of erosion processes in the area.

#### **Mined Land Reclamation —**

Mining problems and the needs for reclamation research were discussed with government agencies concerned. A co-operative approach was devised following meetings and joint field inspections. The branch formulated plans for an extensive survey of foothills mining areas designed to provide a problem analysis upon which to base future research.

Assistance was given to the Canadian Forestry Service in the form of logistical aid and the installation of meteorological instruments on research plots in the Luscar mining area.

Test quantities of eight hardwood species were planted by field staff on existing reclamation trials in the Sterco and Lovett mining areas.

#### **Range Management —**

Range surveys and inspections were conducted for the revision of allotment plans and review of stocking rates. Eight allotments were surveyed and seven revised range management plans were distributed.

A draft of a proposed grazing manual for the Rocky Mountains Forest Reserve was completed.

An early spring inspection of the Bob Creek Forage Resources Study area revealed only limited evidence of elk use during the previous winter. Data collection continued for the purpose of evaluating elk-livestock grazing competition.

An experimental range improvement and hazard reduction burn of 100 acres of brush infested range in Bob Creek proved successful.

Actual grazing use in the Rocky Mountains Forest Reserve by 25,499 head of cattle and horses, for a total of 83,986 animal unit months, produced a revenue of \$74,240.98.

#### **Watershed Management —**

The co-operative Alberta Watershed Research Program placed an increased emphasis upon problem-oriented, applied watershed management research. Close liaison was maintained with the Canadian Forestry Service in regard to research and management co-ordination of the program.

Plans were made for the commercial harvest treatment of one of the sub-basins of the Marmot Creek experimental watershed. Logging roads will be constructed and cutting patterns prescribed during 1971.

In co-operation with the Canadian Forestry Service, an extensive air and ground survey was conducted of potential stream gauging sites for a study into the streamflow effects of pulpwood harvesting.

Data collection continued on the Tri Creek Watershed Study, and the analysis of existing data was initiated. The specific objectives of the study were reviewed in detail, and a planning group was formed to provide proposals for a project plan.

Staff members assisted in the production of proposed guidelines for road construction in forested areas.

#### **Conferences, Seminars, etc. —**

The following were attended:

- International Hydrological Decade — Experimental Basin Review at Kananaskis Forest Experimental Station.
- Western Snow Conference, Victoria, B.C.
- Watershed Workshop on Timber Cutting Guidelines, University of Idaho, Moscow.
- Alberta Advisory Committee on Pollution Control.
- Peace-Athabasca Delta Symposium.

### **MULTIPLE USE PLANNING**

The major responsibility of this section was the co-ordination and conducting of two Canada Land Inventory projects:

1. Land Capability for Forestry, CLI Project 48018.
2. Foothills Resource Allocation Study, CLI Project 38015.

#### **Land Capability for Forestry — CLI Project 48018 —**

Progress of land classification for forestry under the Canada Land Inventory Program, Project No. 48018 is illustrated later in the text in map form. The map illustrates the agencies responsible for completion of the various areas.

Spartan Aero Ltd. successfully completed by March 31, 1971 CLI mapping of approximately 29,000 square miles in northern Alberta (see map).

Currently land capability classification for forestry is in progress for the aspen grove area, Cooking Lake Moraine, Porcupine Hills and Cypress Hills (see map).

#### **Foothills Resource Allocation Study — CLI Project 38015 —**

Administration and Organization —

Provincially, the foothills Study is sponsored by the Conservation and Utilization

Committee and the Department of Lands & Forests is administering the study.

Federally the Canada Land Inventory is funding the study until March 31, 1972.

The Multiple Use Planning Section, Forest Land Use Branch of the Alberta Forest Service has designed and is co-ordinating and completing the study. Provincial, Federal and private agencies are participating as working inter-disciplinary and horizontally structured task forces in the data gathering and analysis stages.

#### Location —

The Foothills area includes that part of the Alberta Green Zone which is drained by the Saskatchewan River System. It occupies the forested part of the province extending westward to include the foothills and eastern slopes of the Rocky Mountains except for that area which falls within the boundaries of Jasper, Banff and Waterton Lakes National Parks. The eastern boundary is described by the Green Zone boundary which follows legal survey lines. The northern boundary consists of the Pembina-Brazeau watershed divide.

#### Methodology —

The study consists of four phases of which the first two are scheduled for completion by March 31, 1972.

In Phase I the potentials of renewable and nonrenewable resources are examined, present land use is compiled and present policy is ascertained. The result will be regional land use guidelines based on present and future productivity and present policy.

In Phase II the present demand will be considered resulting in regional land use guidelines based on present demand.

Phase III will consist of regional guidelines based on projected demand for 25 and 50 percent increases in Alberta's population

Phase IV entails the preparation of detailed micro level multiple use plans for present and projected demands.

All phases have review mechanisms to provide for updating and revisions as necessary.

The personnel involved on the study work together as an inter-disciplinary planning team. Their specializations are as follows: forester, economist, resource geographer, physical geographer and electrical engineer looking after the computer systems.

#### Progress in 1970-71 —

An overall approach to the study was designed and completed.

A preliminary and incomplete working report on the methodology designed up to March 31, 1971 was written and reproduced for circulation.

The analysis of Canada Land Inventory information was finalized.

The task forces for Phase I were structured, approved by the Conservation and

Utilization Committee and some were struck.

A computer system called SYMAP was being tested for the handling and analysis of resource and economic data.

## OPERATIONS

Industrial development in the green area by the Petroleum & Natural Gas Industry decreased slightly during the year since there were no major new discoveries. Major activities resulted from development of existing field facilities associated with the construction of new gas plants.

Coal exploration activities in the mountains and foothills region increased during the year. Due to the demand from the Japanese market for coking coal, potential coking coal deposits are being evaluated to determine their mining feasibility. In order to prevent excessive levels of damage to other resources, special conditions and restrictions are included in each program authorization and the exploration activity is being closely supervised by the Forest staff.

The timber damage assessment for land clearing operations in the green area was reduced from \$28.00 per acre to \$21.70 per acre. This reduction directly reflected a slump in the lumber market which resulted in reduced timber dues.

The Department of Lands and Forests expended a total of \$59,000.00 on erosion control work on geophysical lines in the Strachan-Prairie Creek erosion control area. A total of \$101,000.00 was collected from the geophysical industry to undertake the erosion control in this trial area.

### Petroleum and Natural Gas —

Applications received and approved by the Forest Land Use Branch for land surface rights.

Forest	1967-68	1968-69	1969-70	1970-71
Athabasca	17	24	20	22
Bow River	13	30	54	30
Clearwater-Rocky	92	143	173	98
Crowsnest	1	15	21	20
Edson	30	99	73	75
Footner Lake	847	676	366	158
Grande Prairie	45	54	57	72
Lac La Biche	41	68	48	47
Peace River	67	62	47	41



Forest	1967-68	1968-69	1969-70	1970-71
Slave Lake	255	351	296	290
Whitecourt	192	309	278	297
TOTAL	1,600	1,831	1,433	1,150

A slow decline in activity is illustrated during the past two years, as no new large oil fields were discovered. Two minor discoveries were made, the Meekwap Field in Twp. 66, Rges. 15 & 16, W5th Meridian, and the Cadotte Lake Field in Twp. 86, Rge. 16, W5th Meridian. Major activities in the green zone during 1970-71 have resulted from development of existing oil and gas fields.

Drilling and production on Zama Lake continued during the winter season. No pollution of waterfowl habitat has occurred as a result of this activity.

No new gas plants were applied for in the green zone during the year. Several new plant sites are still under construction.

#### **Geophysical —**

##### **Geophysical Applications Processed**

	Preliminary Plans Approved	Final Plans Approved	Number of Line Miles Cut	Number of Existing Line Miles Used
1964-65	392	175	7,639	8,080
1965-66	603	206	7,204	8,656
1966-67	1,216	422	18,064	12,821
1967-68	924	213	13,348	6,543
1968-69	767	279	9,083	7,203
1969-70	737	380	8,103	9,130
1970-71	454			

The major geophysical activity in 1969-70 occurred in the Edson and Whitecourt Forests. Geophysical activity in the Clearwater-Rocky Forest decreased compared to last year.

#### **Coal Mining —**

Sixty-five coal exploration programs were approved during the year. Exploration activities are in the mountains and foothills region, extending from the Crowsnest Forest in the south, to the Grande Prairie Forest in the north.

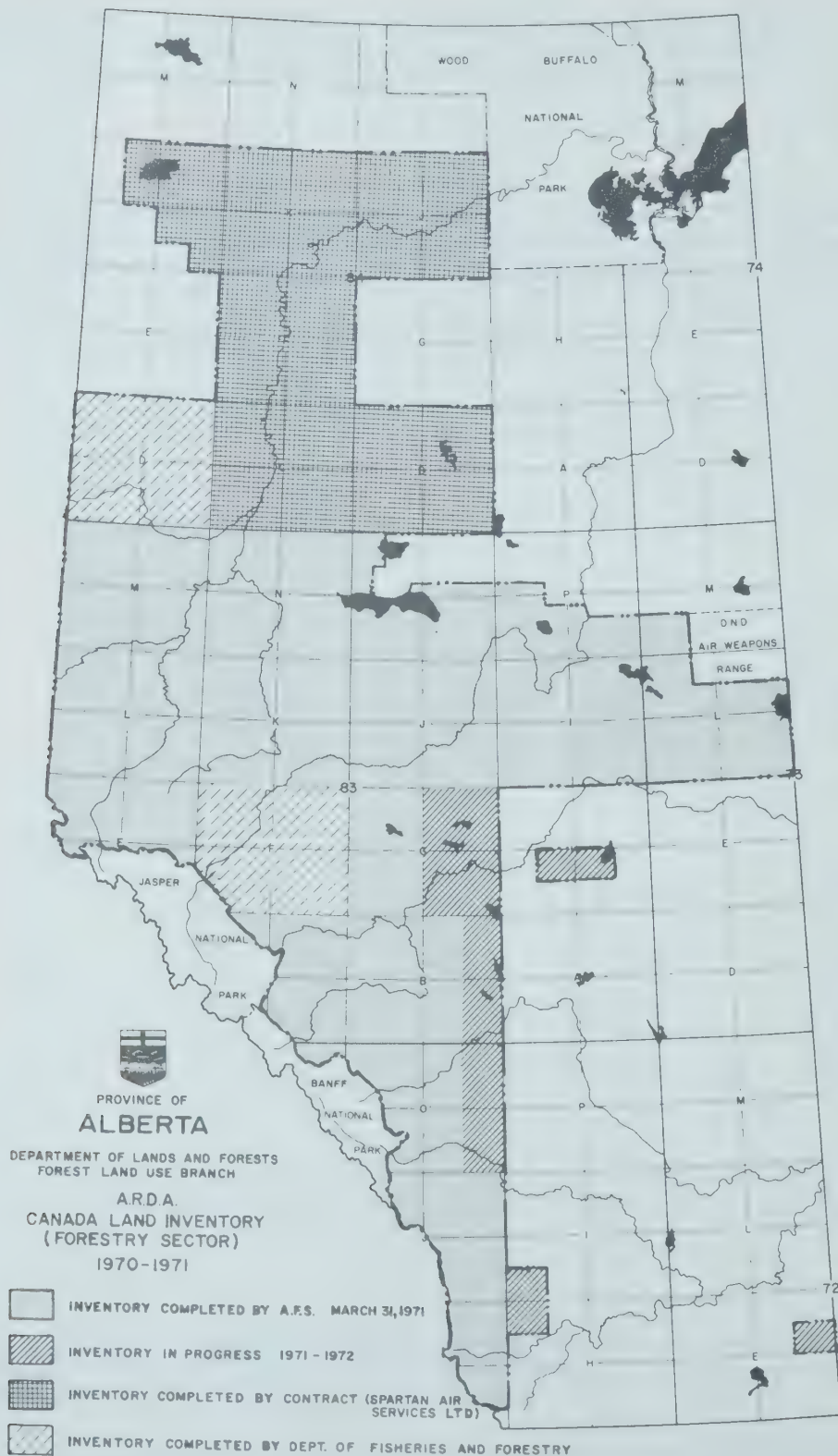
Several coal mining operations are expected as a result of this exploration activity

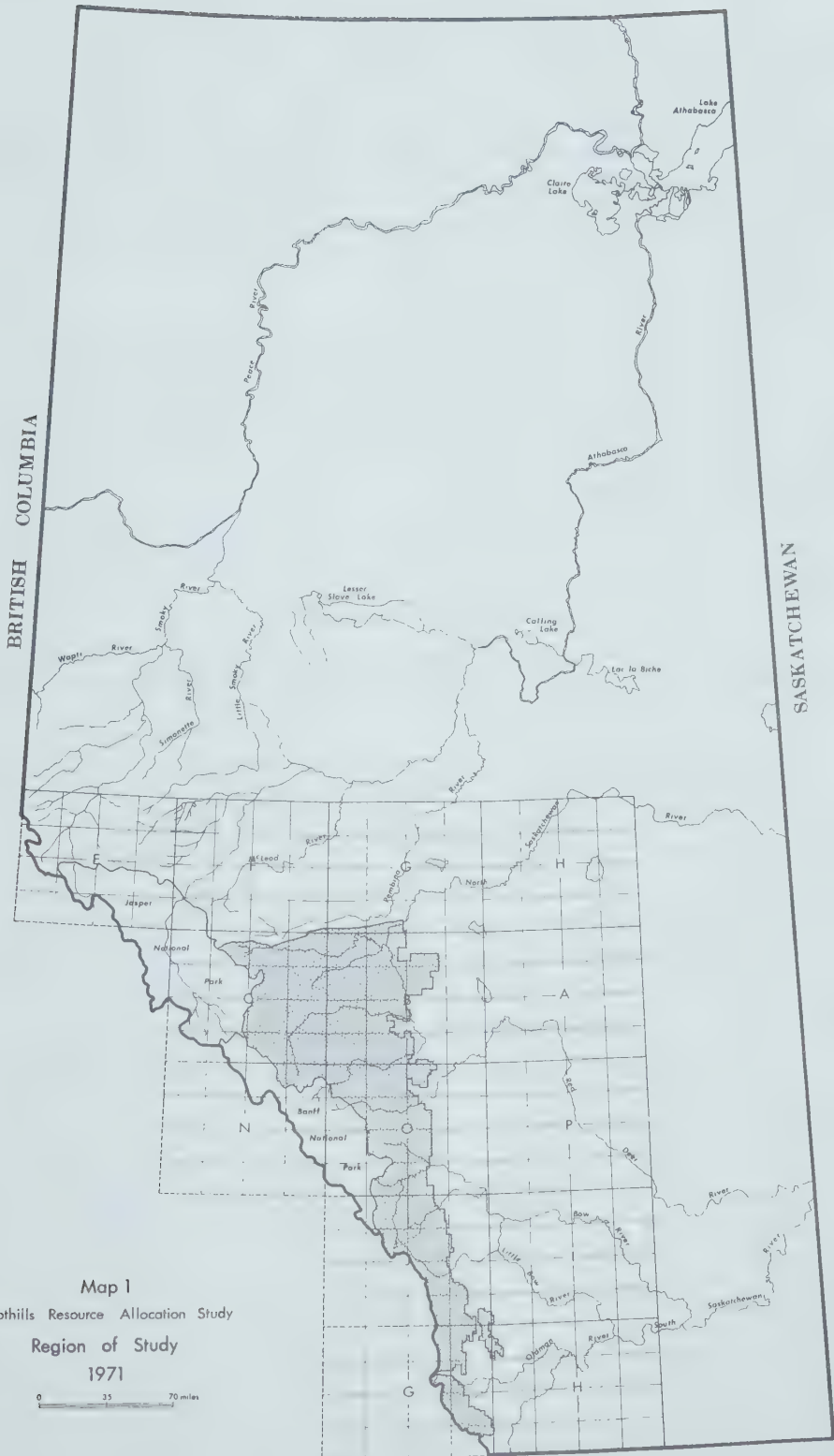
and the demand for good quality coking coal. There are three major mining operations in the green zone at present; Coleman Collieries Crowsnest Pass operation, Cardinal River Coal-Luscar operation and McIntyre Porcupine Mines Grande Cache operation.

#### **Forest Recreation —**

A total of \$145,750 was spent in the re-development, expansion or improvement of 34 existing recreation areas. Of this, \$111,460.00 was spent from Vote 1888 and there-maining \$34,290.00 from Vote 1882. An additional \$29,290.00 from Vote 1882 was spent developing two new recreation areas, Beaver Mines Lake in the Crowsnest Forest and Bluerock in the Bow River Forest.

Maintenance and cleanup of 90 developed Forest Service recreation areas cost \$90,930.00.





## FOREST PROTECTION BRANCH

### Summary of the 1970 Fire Season

The 1970 fire season was the highest fire incidence year within the last decade. Eight hundred and sixteen fires occurred during the season. Although only 43% of the fires were caused by lightning, over 80% of the damage was incurred by these lightning caused fires.

A cool month of May and an increased intensity of prevention program kept fire losses due to settlement fires at a fairly low level.

A record breaking heat wave in the early weeks of the month of June followed by a major cold front resulted in severe thunderstorms occurring in northeastern Alberta. Over one hundred lightning fires were ignited in a three day span. The multiple fire situation put a severe workload on the Forest Service in the Lac La Biche and Athabasca Forests. Thus the loss was very heavy with almost two-thirds of the total 1970 fire loss being burned during this period.

July saw an increase in lightning activities. However, the major fire activities were generally confined to the Footner Lake and Edson Forests where a number of large fires occurred.

In August the southern Forests had subnormal precipitation with a fairly high day time temperature. The fire hazard became extreme and one large fire occurred in the Bow River Forest.

The fall weather was generally fairly cool. Two cold spells occurred in September with snow being recorded at most forestry stations during this period. Hot dry weather returned at the end of September raising the fire hazard briefly, however, cold air returned with more snow thus ending the fire season.

### FIRE DETECTION

The total number of fire lookouts in operation during the year was 145. A distance of 175,000 miles was flown by aircraft on fire patrol during which 186 fires were discovered.

The fires reported by different agencies are shown on the accompanying tables.

### AIRCRAFT OPERATIONS

	Government Owned	Leased	Casual Charter	1970 Total
Helicopters	3	4	44	51
Fixed Wing	4	12	93	109
Total	7	16	137	160

Total hours flown — 17,115 All aircraft



Aircraft were in action on 460 fires

- Two air attack canso's from the Province of Quebec and armed forces buffalo transports are included in the above.

#### FORESTRY DC-3 CF-IAE

A total of 115 complete fire crews were flown with the DC-3 during the 1970 fire season. This equals 3,159 fire fighting personnel. In addition, a total of 173 other personnel (F/M, students, etc.) were flown on various projects for a grand total of 3,332 passengers.

A total of 124,825 lbs. cargo was hauled in the DC-3 during 1970, with the majority of the cargo being related to fires.

#### FIRE SUPPRESSION

Suppressive action was taken on 775 fires within the "forest protection area". An area of 124,905 acres was burned over consisting of 75,623 acres of forested Crown land, 42,837 acres of non-forested Crown land and 6,445 acres of private land. The 775 fires are shown below by size class:

438 Class "A" or small fires ( $\frac{1}{4}$  acre or less)

214 Class "B" (over  $\frac{1}{4}$  acre up to 10 acres)

61 Class "C" (over 10 acres up to 100 acres)

27 Class "D" (over 100 acres up to 500 acres)

35 Class "E" (over 500 acres)

In addition to the above, action was taken on 41 fires that were not the responsibility of the Forest Service. These fires burned over an area of 4,652 acres.

#### FIRE STATISTICS

The following tables and charts give statistical detail on 1970 fires and comparisons with other years.

## COMPARISON OF FIRE CAUSES BY PERCENTAGES

## FOR THE YEARS 1961 TO 1970 INCLUSIVE

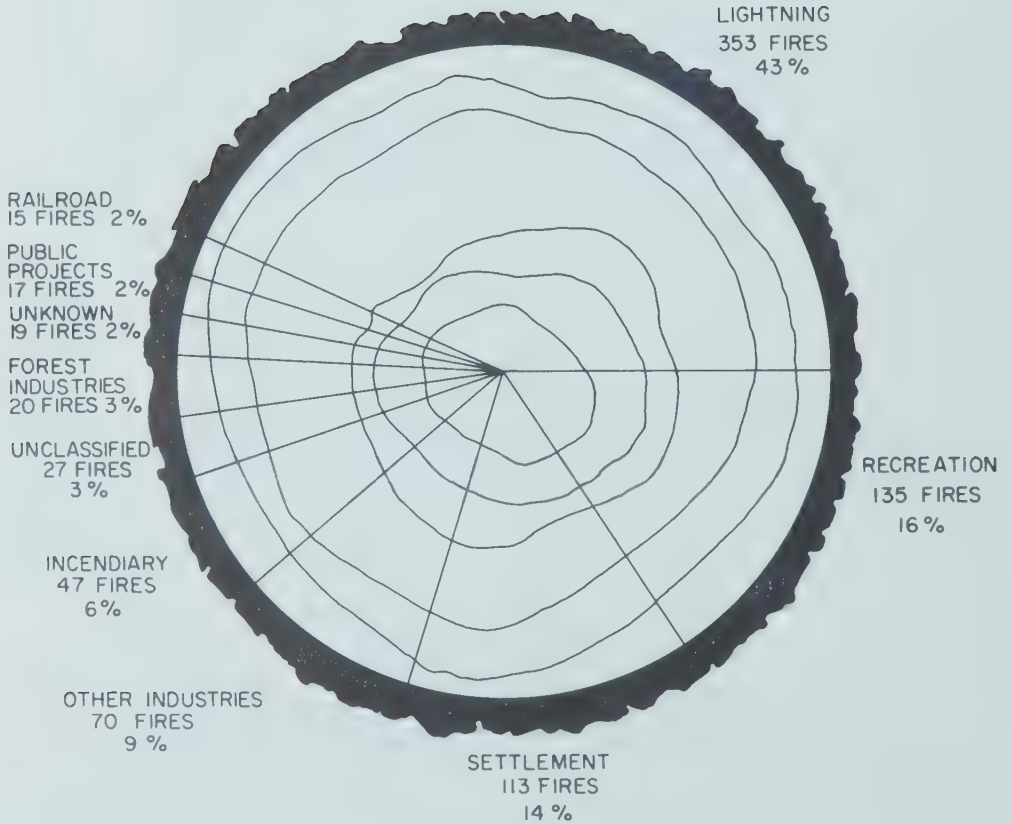
CAUSE	1961	1962	1963	1964	1965	CAUSE	1966	1967	1968	1969	1970
Campers	13.1	18.0	15.3	17.2	15.1	Recreation	19.1	20.7	13.9	12.5	16.5
Smokers	9.0	4.0	6.9	10.9	7.5						
Settlers	9.4	6.1	5.2	14.8	4.4	Settlement	13.5	10.5	34.0	13.0	13.8
Railways	0.2	3.6	1.3	1.8	2.8	Railroads	1.9	5.9	1.1	1.0	1.8
Lightning	41.8	37.8	47.5	25.1	45.2	Lightning	28.3	33.9	17.5	42.0	43.4
Industrial	7.5	14.7	6.9	7.7	9.5	Other Industries	20.2	12.8	10.2	10.0	8.6
Incendiary	10.5	6.8	12.8	16.6	9.9	Forest Industries	1.9	2.7	3.7	5.3	2.4
Public Projects	2.2	2.5	0.5	4.7	2.8	Incendiary	9.4	7.2	10.2	6.3	5.8
Unclassified	1.9	2.2	0.9	0.9	1.6	Public Projects	2.2	1.3	3.2	3.5	2.1
Unknown	4.4	4.3	2.7	0.3	1.2	Unclassified	3.0	2.5	5.2	5.0	3.3
						Unknown	0.5	2.5	1.0	1.4	2.3

SUMMARY SHOWING TOTAL NUMBER OF FIRES AND BURNT OVER AREAS  
FROM 1961 TO 1970 INCLUSIVE

Year	Total Fires	Non- Forested Acres	Forested Acres	Total Area Acres	Suppression Costs
1961	811	36,288	157,257	193,545	\$ 2,365,862
1962	278	1,386	3,120	4,506	210,869
1963	554	3,055	14,554	17,609	609,502
1964	338	6,325	8,732	15,057	396,719
1965	252	4,565	49,769	54,334	574,516
1966	371	34,108	35,842	69,950	1,305,603
1967	796	9,777	13,438	23,215	2,382,615
1968	617	461,585	527,790	989,375	5,506,872
1969	556	28,011	44,382	72,393	2,843,994
1970	816	53,252	76,305	129,557	4,535,419
TOTALS	5,389	638,352	931,189	1,569,541	\$20,731,971

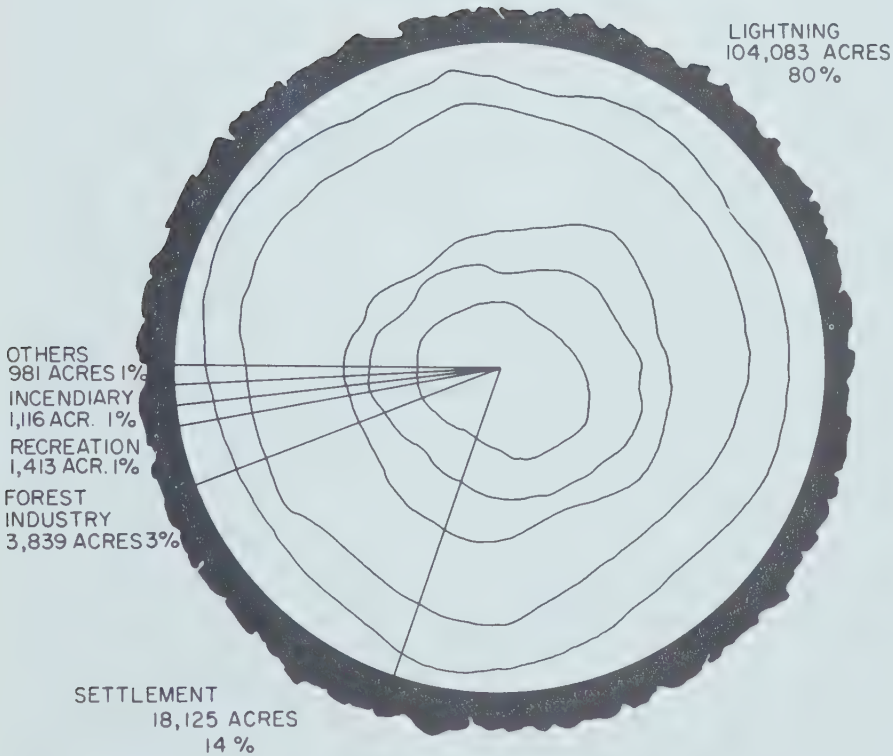
NUMBER of FIRES by CAUSE 1970

TOTAL FIRES 816



AREA BURNED by CAUSE 1970

TOTAL AREA BURNED 129,557 ACRES



FIRES LISTED UNDER 'OTHER' CAUSES INCLUDE THOSE CAUSED BY UNCLASSIFIED, RAILROADS, OTHER INDUSTRIES, PUBLIC PROJECTS, UNUSUAL AND UNKNOWN CAUSES.





GOVERNMENT OF THE PROVINCE OF ALBERTA  
DEPARTMENT OF LANDS AND FORESTS  
FORLEST SERVICE

ALBERTA DIVISION OF FOREST

FOR THE YEAR 1970

NAME AND OR NUMBER OF FIRE	CLASS OF FIRE						LANDS AFFECTED (ACRES)				VOLUME LOSS		VALUE LOSS IN DOLLARS							SUPPRESSION COSTS		
	A	B	C	D	E	F	CROWN LANDS				Total Area	Saw Timber M. F.B.M.	Others Conds	Saw Timber F.B.M.	Others Conds	Young Growth \$	Potential Production \$	Total Properties \$	Total Loss \$	Aircraft Expenditure \$	Other Expenditure \$	Total Costs \$
							Merchant Timber Crown Land	Young Growth Crown Land	Potential Production Crown Land	Non Productive Crown Land												
Crow Creek	11	5	2				4	8	49	6	67						71	71	71	132	60118	61490
Big River	16	7	2	1	2		466	668	65	169	438	3	433			985	98	15048	14924	11052	445456	445456
Clearwater River	44	13	2				22		1	67	90	9	306	132	322		1	455	455	5709	60164	60873
Elbow	65	16	4	2	1		418	309	268	763	1858	20	1878	1602	12531	4680	402	33621	3621	101129	227772	238901
Whitesort	47	42	1	2			313	69	50	29	361	184	181	1031	622	4849	74	6102	6102	225182	267400	267400
Grande Prairie	38				2		2222	3140	218	620	6857	451	11274	608	54898	33591	327	89003	59003	52604	159877	212571
Sage Lake	52	27	3	3			124	28	153	862	607	350	4210	1419	3385	348	76	5228	3164	44488	130343	174831
Pearce River	11	34	8	1	1		19	379	100	282	650	41	706	178	189	2102	605	3164	3164	14843	159855	144608
Footner Lake	43	31	12	2	6		553	1313	6470	13037	26993	1026	22022	4125	37970	5564	9675	107834	107834	212165	728909	728909
Atabasca	26	25	10		10		4211	6422	488	3385	20086	27	20113	5635	118082	26064	4914	63051	363051	180421	186571	376242
La Loche	46	10	1	6	12		19441	11505	1599	23586	55703	14475	33975	54740	867905	171511	1841	798839	798839	226333	576731	501004
Total Forests	745	430	201	65	34	35	38973	26641	9431	42495	117540	6445	123985	32180	617607	104747	374463	18176	1531418	1328935	1979300	3308415
Mines Colonies	3	3			2		2	6		11	19	5	60	20	44	40		94	94	1823	3035	5756
Indian Reserves	5	10	6	3			116	786	174	331	901	31	995	147	1260	608	196	2211	2211	4066	5224	9280
Total Protection Area	775	438	214	61	27	35	39085	26933	9605	42807	118460	6445	124095	32186	618662	104951	378161	183723	1531723	1399064	2327436	4446502
Total Non-Production Area	41	9	16	6	7	3	30	427	225	167	849	2084	1475	347	1019	3355	217	4918	4918	44766	84151	128177
Grand Total	816	447	230	67	34	38	39115	27360	9830	43004	119309	10248	128557	34270	620137	104546	378456	1538661	1538661	2123630	2411589	4535419

## FIRE RESEARCH SECTION

1. Two short term research programs were completed. One concerned a detailed study of manpower requirements for fire control. The other was a statistical review of the Forest Service's detection system. Internal reports were published and distributed.
2. Updating of fire information gathering system was initiated with a comprehensive review of the present fire report form. A revised report form is expected to be issued in 1971.
3. During 1970 the following research and development notes concerning the Forest Protection Branch were published.
  - (a) Fire Weather Office (R & D # 2) published by the Fire Weather Section, Forest Protection Branch.
  - (b) Hose Handling Equipment (R & D #3) published by the Equipment Development Section, Construction and Maintenance Branch.
  - (c) Flame Thrower (IR & D #4) published by the Equipment Development Section, Construction and Maintenance Branch.
  - (d) Monsoon Bucket (R & D #5) published by the Equipment Development Section, Construction and Maintenance Branch.
4. A publication was issued by the Fire Weather Section of the Forest Protection Branch entitled "Project Metlite (1969 Field Program and Preliminary Results by R. G. Lawford)."

## TELECOMMUNICATIONS

A revision to the teletype system was made to upgrade transmission speed from 60 to 100 words per minute.

An electronic secretary was added to the link between the Natural Resources Building and the Alberta Forest Service Depot to expedite traffic handling and to provide for message storage at times when no operator is on shift. This type of operation will be evaluated as it offers more immediate access to the communications center, particularly for priority traffic.

The equipment used in the Fire Control Communications System has been modified, where necessary, in order to overcome defects and problems which appeared when this equipment was utilized in major fire action during the season.

New single side band equipment worked well in 1970, particularly in the Lac La Biche emergency fire situation. More training on the use of this equipment will be provided at the Forest level by the Forest Communications Officers.

The system design and equipment procurements for renewal of the Edson Forest communications was carried out and the installation of this system is programmed for the 1971-72 season. A conversion of Athabasca Lookout to the new system was completed and this will allow the Forest to become familiar with its operation and potential.

The gain antenna for the 5 watt portable was redesigned and a clip-on base provided so that the same antenna provides communications both in the mobile and portable usage.

Communications were provided to the Moonshine Lake and Sir Winston Churchill Parks during the year and design work and equipment supply was carried out for the Lethbridge and Cypress Hills Parks. This system also provides communications for the Fish and Wildlife offices at Claresholm, Pincher Creek, Medicine Hat and Foremost.

## TIMBER MANAGEMENT BRANCH

A significant accomplishment of the fiscal year ending March 31, 1971 was the finalization of the new Forests Act, 1971 which is to become effective on the first day of July, 1971.

The past year was not a good one for the lumber industry, and since softwood lumber continues to be the most significant commodity produced from Alberta's timber resource, production volumes and value declined slightly. Timber revenues declined significantly. Fortunately, at year end demand for lumber began to strengthen with some recovery of revenue.

The beginning of the 1971 calendar year brought several major industrial developments based on the forest resource. These developments will improve the utilization of Alberta's forests, increase timber revenues, and expand the provincial economy to a significant degree.

Proctor & Gamble of Canada Ltd. announced that they would proceed with a bleached kraft pulp mill at Grande Prairie having a rated daily capacity of 750 tons.

MacMillan, Bloedel were declared in default of their agreement covering forest lands in the Whitecourt area, but were given six months in which to correct the default by proceeding with construction of a pulp mill. At the close of the fiscal year there was no indication that MacMillan, Bloedel would proceed.

North Western Pulp and Power Ltd. at Hinton, announced the immediate construction of a sawmill-planer mill complex with a rated annual production capacity of fifty million board feet of dimension (studs) lumber. This expansion will enable the company to retain their former reserve area until a major pulp mill expansion can begin in 1973.

Alberta Hardwoods are proceeding with construction of a large sawmill-planer mill complex near the Town of Slave Lake, which will have an annual production capacity of sixty million board feet of poplar studs. If this development succeeds, there may be a significant expansion of lumber production in Alberta based on the utilization of poplar.

Increasing forest resource utilization requires increased timber management activity. Nevertheless, no staff increases were made during the fiscal year and no significant increase is foreseen. The activities of the seven sections of the Timber Management Branch are described in the following report:

### FOREST STATISTICS

In the past year, the Forest Statistics Section continued to update the original provincial forest inventory and to provide statistics on Alberta's forest resource to industrial users and to a variety of government departments and agencies.

Work continues on the development of an up-to-date booklet containing statistics on the area and volume of timber, the net allowable cut, and forest depletion from fire, insects, disease, timber harvest and industrial clearing. The forest inventory (area and volume) and net allowable cut statistics are now available but some forest depletion information has not yet been finalized.

Considerable time was spent in updating the basic forest inventory statistics to ad-



just for forest fire losses and management unit boundary changes. This work is being done manually because of the lack of a program enabling computer adjustment of the information. Repeated requests were made during the year for programming assistance for this Section.

## FOREST INVENTORY

During the year most work of this section was concentrated on gathering information and developing techniques in part of Management Unit P6. The object is to develop an inventory method suitable for intensive forest management.

Collecting local sample data within cover types has conventionally been done on the ground. In the test area attempts are being made to economize by substituting office measurements of comparable accuracy on large scale sample aerial photos. Such photography is taken from a low level and is so large that individual tree measurements can be made.

About 280 line miles of leafless low level photography were taken on sample lines in P6 in the fall of 1970. (Vinten 70mm camera with radar altimeter readout, 12" lens, Kodak Tri-X panchromatic film, contact scale about 1:2400, enlargement scale about 1:600). A radar altimeter indicated the exact flying height above ground and so allowed the exact photo scale to be calculated for measurement purposes. The photography was taken by this department in co-operation with the Canadian Forest Service and the National Research Council who have developed the equipment and techniques. Some experiments were also made with a 6" lens length and with other film/filter combinations, including color film.

A summer field party measured 78 plots on the ground, each plot and many of the individual trees being exactly located on the large scale photographs. Each plot consisted of five 0.1 acre sub plots, one of which was designated for cutting. All trees on the plots were measured standing, while trees on the cut sub plots were felled, sectioned and measured to provide information on cull and to investigate the relationship between volume and photo measurements. This work was done in liaison with the Canadian Forest Service on a joint AFS-CFS test area within Management Unit P6.

During the winter photo interpreters developed measurement techniques, trained and were tested using the large scale photographs of the ground plots. Preliminary analysis of the results indicates that measurements of suitable accuracy can be expected.

Accurate and reliable stand ages will be required for the effective management of Alberta's forests. Recognizing that most natural stands are of fire origin, old fire perimeters were outlined on conventional aerial photography in Management Unit P6. It is hoped that sample ground measurements of stand age can be superimposed on this fire history matrix and used to construct an accurate age map at little cost.

The photo interpretation for quota reconnaissance mapping is now being done by interpreters of the Management Planning Section although at the beginning of the year Inventory Surveys did interpret 2,165 square miles for detailed forest cover maps in the following areas:

Management Unit A5:	774 square miles
Management Unit A7:	891 square miles
Management Unit A10:	500 square miles

## FOREST ECONOMICS

The work of this section is presently confined to an analytical review of the value of wood pulp production to the economy of Alberta. The revenues and costs to the government which are associated with pulpwood harvesting agreements are being examined. Work on the study progressed favorably during the year, and a preliminary written draft is expected midway through the next fiscal year.

## SILVICULTURE

As indicated in the tables following, this past year has seen three significant developments in the silviculture program of the Alberta Forest Service: (1) A large increase in the planting of conventional (naked root) seedlings from a previous high of 745,407 in 1967-68 to 1,248,693 last year. (2) The largest seed collection program yet experienced, at 10,877 pounds, some 3,000 pounds more than the previous high figure of 7,835 in 1968-69. (3) A drop in the number of containers planted as a direct result of the increase in container size, and the limited container growing facilities. To improve survival and growth, fewer numbers of larger containers were grown in the same greenhouse facilities. Although the numbers planted are fewer, survival and growth should improve, so that the number of trees actually established may not decline greatly. A time of critical decision is near in the container program.

Although they are not shown in the following tables, work was begun on several new seed production areas, to develop permanent, high quality sources of tree seed in accessible locations.

Industrial reforestation figures have increased substantially as quota holders begin to scarify areas cut-over since 1966. The total acreage scarified by industry increased from 10,432 acres in the last fiscal year to 15,365 acres this year. These figures are in addition to the government program.

Finally, a new table has been introduced this year to record the amount of regeneration survey work being done with a summary of the results of the surveys. Survey work will become increasingly significant as legislated dates for reforestation draw nearer.

# REFORESTATION BY THE ALBERTA FOREST SERVICE

## SILVICULTURE

### Totals By Forests

Forest	Scarification (Acres)	Seeding (Acres)	*Pine (lbs.)	Seed Collected Spruce (lbs.)	Thinning (Acres)	Seedlings Planted Conventional (Number)	Seedlings Planted Container (Number)
Crowsnest	268	547	68	50	140	121,980	99,700
Bow River	1,850	—	256	—	100	291,000	75,000
Clearwater-Rocky	1,544	50	47	8	410	126,486	—
Edson	60	—	—	142	—	80,000	40,000
Whitecourt	2,429	1,629	7	2,728	67	93,017	26,600
Grande Prairie	2,941	1,636	59	1,557	—	68,000	100,000
Peace River	2,902	2,678	—	49	—	70,000	2,000
Footner Lake	831	242	—	—	13	89,000	3,000
Slave Lake	1,889	1,178	—	5,500	4,314	230,660	—
Lac La Biche	1,800	1,400	—	317	—	30,000	—
Athabasca	4	—	23	66	—	48,550	38,200
TOTAL	16,518	9,360	460	10,417	5,044	1,248,693	384,500

Extension Forestry: White Spruce 1,200 Seedlings shipped  
 Lodgepole Pine 2,200 Seedlings shipped  
 Others 2,200 Seedlings shipped

\*Pine cones still on hand at date of report

Ten Year Summary – Reforestation By the Alberta Forest Service

Year	Scarification (Acres)	Seeding (Acres)	Seed Collected (lbs.) (oz.)	Thinning (Acres)	Seedlings Planted (Number)	Conventional	Container	Extension Forestry Seedlings Shipped
1961-62	10,013	3,475	6,672 0	-	125,000			
1962-63	10,688	7,900	1,540 0	-	173,000			
1963-64	9,015	8,242	325 0	281	261,000			
1964-65	10,477.8	6,769.5	4,361 0	1,005	325,083			
1965-66	18,495	11,141	221 0	715	700,751			
1966-67	17,902	13,001	444 0	600	876,072			
1967-68	27,921.1	20,323	2,073 3	790.37	745,407	238,884		20,500
1968-69	17,294	9,099	7,835 10	2,240.8	523,570	1,122,709		8,000
1969-70	12,091.2	10,426	855 2	2,759	666,619	672,584		5,600
1970-71	16,518	9,360	10,877 0	5,044	1,248,693	384,500		

## SILVICULTURAL WORK BY INDUSTRY

Crowsnest Forest	Nil	
Bow River Forest	Scarified	154 acres
	Thinned	50 acres
Clearwater-Rocky Forest	Scarified	210 acres
Edson Forest	Scarified	5,000 acres
	Planting	3,000 conventional seedlings
		1,307,000 container seedlings
Whitecourt Forest	Scarified	3,427 acres
Grande Prairie	Scarified	598 acres
Peace River	Scarified	142 acres
Footner Lake	Scarified	1,718 acres
Slave Lake	Scarified	3,370 acres
Lac La Biche	Scarified	900 acres
Athabasca	Nil	
Industry Total	Commercial Thinning	50 acres
	Scarified	15,365 acres
	Planted	1,307,000 containers
	Planted	3,000 seedlings

In 1970 there were 2,097 pounds of spruce seed and 77 pounds of pine seed collected by industry.

## REGENERATION SURVEYS

Forest	Stocked Acres	Alberta Forest Service Non-Stocked Acres	Total Acres	Stocked Acres	Industry Non-Stocked Acres	Total Acres
Crowsnest	652	4,901	5,553	—	—	—
Bow River	54	69	123	—	—	—
Clearwater-Rocky	3,942	6,449	10,391	—	—	—
Edson	2,760	1,250	4,010	8,814	2,825	11,639
Whitecourt	—	44	44	90	—	90
Grande Prairie	2,782	2,940	5,722	3,131	1,759	4,890
Peace River	2,877	2,723	5,600	113	1,358	1,471
Footner Lake	346	462	808	—	—	—
Slave Lake	3,500	4,800	8,300	—	—	—
Lac La Biche	10	90	100	—	—	—
Athabasca	—	—	—	—	—	—
TOTAL	16,923	23,728	40,651	12,148	5,942	18,090



## TIMBER MANAGEMENT PLANNING

Five Quota Plans were revised (SM, S2, S6, A2 and A3) and one new plan (F7) developed during the year.

The cut progression in a number of Forest Management Units was updated taking into account such significant factors as stand condition, maturity, size and operability, improvements in access, multiple uses, etc.

The planning of the detailed timber cruising program is steadily progressing to the point whereby the immediate timber needs will be cruised and set up ready for licence issuance five years, (one quota period) in advance. This planning is done in consultation with timber operators who are now able to undertake long term road development programs.

Photo-interpretation and mapping was completed in six Management Units (E5, E10, G01, P02, A5 and A7) and a schedule was set up from 1971 into 1973 with priority assigned to the six Management Units in the Whitecourt Forest and S1 of the Slave Lake Forest. New photography is slated for early 1971 to cover the priority units of the latter two Forests.

The field portion of the Quota Reconnaissance Program was continued in five Management Units (E10, F4, F7, A5 and A7) on a priority basis to effect quota plan revisions where justified.

In comparison with the prior fiscal year of 1969-1970, the number of quotas is 36 less due to three cancellations, 32 amalgamations, and the competitive sale of F6-Q1 of 1.3, MM FBM, purchased by the Jean D'Or Prairie Co-operative Ltd.

## Coniferous Timber Quotas at March 31, 1971

Forest	No. of Quotas	Annual Quotas MM FBM Coniferous Sawlog	Cubic Foot Annual Quotas — Coniferous Roundwood & Sawlogs
Crowsnest	11	—	5,291
Bow River	21	—	5,658
Rocky Mtn. House	38	—	8,064
Edson	3	—	1,204
Whitecourt	21	63.4	—
Grande Prairie	5	31.6	—
Peace River	12	53.5	—
Footner Lake	23	99.0	—
Slave Lake	39	119.4	—
Lac La Biche	9	26.6	—

Forest	No. of Quotas	Annual Quotas MM FBM Coniferous Sawlog	Cubic Foot Annual Quotas — Coniferous Roundwood & Sawlogs
Athabasca	6	23.2	—
Totals (11)	188	416.7	20,217

#### Deciduous Timber Allocations at March 31, 1971

Forest	No. of Active D.T.A.'s	Annual D.T.A. in Acres	No. of Proposed D.T.A.'s	Annual D.T.A. in Acres
Slave Lake	8	12,480	7	10,110
Lac La Biche	2	1,310	3	780
Peace River	1	890	—	—
Rocky Mtn. House	1	460	—	—
Totals (4)	12	15,140	10	10,890

Alberta Hardwoods Ltd. is a major D.T.A. holder, Zeidler Plywood of Edmonton and Wespar Northern Ltd. of Vancouver, hold smaller allocations.

Alberta Hardwoods Ltd. is completing the construction of the largest sawmill in Alberta with three scragg saws near the Town of Slave Lake. One large timber licence has been issued to Alberta Hardwoods, and harvesting operations were about to begin at the close of the fiscal year.

Additional poplar timber requests are at hand from Wespar Northern Ltd. of Vancouver and Dyck's Containers and Forest Products of Winnipeg.

#### Forest Management Agreement Areas

North Canadian Forest Industries Ltd. — The Company's Forest Management Plan was submitted for approval on February 26, 1971 and two additional blocks situated generally along the Peace River have been included to increase the annual allowable cut.

The Blueberry Mountain Community Forest Management Plan, mapping, field work and compilation was completed during the year, and plan preparation and approval are the next steps.

#### WOODS OPERATIONS

The Woods Operations Section has made significant progress in the development of more efficient timber cruising, compilation and report procedures. A computer program and data processing system is under development and testing for the compilation of detailed cruise information. This will be operational by mid 1971. Revision of the cruise report procedures was also undertaken. Logging and sawmilling cost surveys were made to update the coniferous timber appraisal system for the 1970-72 appraisal period.

The following table provides information on the number and type of timber operations active in the province for the year.

(a) Woods Operations in Alberta 1970-71

	Timber Licences	Permits	Forest Management Areas
Operations Active	243	86	2
Inspections reported	1,909	811	193
Suspension of Operations for Cause	4	3	
Penalties for Operating Cause	20		5
Seizures	6	9	—
Annual Operating Plans Approved	193	—	2

(b) Tree Scaling

Forty-one tree scale licences or permits remain active, nineteen operated, producing a volume of 32,563,000 F.B.M. This is a decrease of 9,169,000 f.b.m. (22%) from last year's production. Much of the decrease is due to a trend towards weight scaling.

(c) Weight Scaling

Twelve weight scales are being employed for weighing of wood throughout the province. This is an increase of four weight scales over the past year. Two management areas and forty-three licences and permits reported production on the basis of weight scaling.

Total Volume Weight Scaled:

Pulpwood	246,000 cords
F.B.M.	235,100,000 F.B.M.
Cubic Feet	243,000 cubic feet

(d) Log Scaling

Thirty-one licences were on conventional International 5/16 inch log scale with a production of 34,993,000 f.b.m. Nine of the licences changed to weight scaling in the latter part of the season.

(e) Scaling Licences and Permits

	Number of Licences Issued	Number of Permits Issued
To Scale Sawlogs	12	93
To Scale Pulpwood	5	3
To Scale All Classes	3	1
	20	97

During the year ninety-five applicants wrote scaling examinations of various types. Of this total seventy-three were successful and twenty-two unsuccessful.

(f) Timber Audits

The number of Timber Audits conducted and purchaser's records checked during the period April 1, 1970 to March 31, 1971 may be summarized as follows:

Timber Audits

Audits commenced	118
Audits finalized	98

Purchase Records

Purchase records check commenced	36
Purchase records check finalized	34

In addition to establishing the total volumes accountable for dues payment, the production of each quota under the quota system also forms a significant part of each audit. As a result careful segregation of the quota and non-quota production was taken into account as well in all audits conducted throughout the year to determine the volumes chargeable to each quota.

The first quarterly quota period will end April 30, 1971 at which time a total accounting will be made of the audited production volumes chargeable to each quota during the five year period.

## TIMBER DISPOSITIONS, RECORDS AND ACCOUNTS

Implementation of a more flexible dues assessment system based on a moving three month average to move more quickly with the market, which was developed in March, 1970, resulted in a sharp decrease in the timber dues at the beginning of the year from \$9.50 to \$4.50 per M FBM. The depressed market conditions prevailed throughout most of the year with a slight upward trend noted in the latter months resulting in the timber dues being established at \$4.95 per M FBM at the year end.

While production of coniferous lumber and plywood logs increased from an estimated 503 MM FBM to 512 MM FBM the resultant revenue and timber value decreased due to a reduction in the mill net from \$71.50 to \$66.69 per M FBM.

A total of 28 penalties were assessed for various operating infractions, for overcuts and inadequate records. A breakdown is:

Woods Operations	25
Timber Audit (Records)	2
Timber Accounts	1
Total	28

Due to the prevailing depressed market conditions a further reduction in timber requirements other than deciduous timber was noted as compared to the previous year, with the following being issued.



## FOREST PRODUCTS TREND

Ten Year Period

1961 - 1971

Year	Number Licences, Special Timber	Number Miscellaneous Timber Permits	MM f.b.m. Lumber - All Species	MM f.b.m. Plywood Logs - Coniferous	MM f.b.m. Plywood Logs - Deciduous	MM Lin. ft. Round Timber Poles, piling, posts	M Cords Pulpwood	M Cords Fuelwood	M pieces Railway Ties	M pieces Mine Ties	M pieces Lath	Number Christmas Trees	Number Trees For Transplanting	Equivalent in 1,000 of cubic feet
1961-62	548	4,075	288	20	13	20	271	8	211	27	2,686	17,070		85,315
1962-63	571	4,575	314	23	14	29	283	13	634	25	3,231	44,347		95,363
1963-64	610	5,866	381	31	22	38	300	7	659	5	3,764	24,880	2,510	112,103
1964-65	646	3,083	319	18	11	28	390	3	393	-	2,210	37,008	2,347	105,114
1965-66	568	2,795	309	20	13	23	379	5	432	-	2,027	19,644	6,952	101,628
1966-67	485	2,790	290	56	12	23	379	4	443	6	2,572	27,127	1,269	104,747
1967-68	427	2,552	272	60	4	19	244	2	554	4	1,710	15,884	1,919	91,176
1968-69	515	2,754	467*	-	4	2**	316	3	331	2	2,500	13,180	3,878	115,407
1969-70	585	2,663	503*	-	3	2**	357	3	306	-	3,907	9,929	4,244	124,921
1970-71	541	1,971	512*	-	-	3**	281	4	299	-	3,538	15,283	211	120,694

\* - includes coniferous plywood logs

\*\* - recorded in cubic feet

Note: Lumber production From Other Provincial Lands (Jan. - Mar., 1971) 14,080,467 FBM

Lumber Production From Federal Parks (Jan. - Mar., 1971) 17,143,000 FBM



# SUMMARY OF TIMBER OPERATIONS ON PUBLIC LANDS

	Forest Management Agreement Areas, Timber Licences and Special Permits 1970 - 1971	Miscellaneous Timber Permits 1970 - 1971	Total 1970 - 1971
Number of Licences, Special Timber Permits	541	1,971	2,512
Christmas Trees (number)	—	15,283	15,283
Fuelwood (cords)	696	2,817	3,513
Lath (pieces)	3,529,735	8,500	3,538,235
Lumber and Plywood Logs, Coniferous (FBM)	509,667,868	2,661,545	512,329,413
Mine Ties (pieces)	—	—	—
Pulpwood (cords)	254,667	26,775	281,442
Plywood Logs, Poplar (FBM)	—	—	—
Railway Ties (pieces)	299,205	—	299,205
Round Timber (cubic feet)	2,035,607	939,533	2,975,140
Shingles (pieces)	—	—	—
Slabs (cords)	317	—	317
Trees for transplanting (number)	—	211	211
Timber Seizures	6	9	15
Custom Sawmill, Planing Mill or Timber Processing Plant Permits (number)	—	—	57

## TIMBER PRODUCTS

Fiscal Year 1970-71

VOLUME	PRODUCT	UNIT PRICE	VALUE
15,283	Christmas Trees	\$ 3.00	\$ 45,849
3,513 cords	Fuelwood	\$ 10.00	\$ 35,130
3,538,235 pieces	Lath	\$ 1.25 (50 pcs. per bundle)	\$ 88,456
512,329,413 FBM	Lumber and Plywood Logs, Coniferous	\$ 67.00	\$ 34,326,071
— pieces	Mine Ties	\$ .50	—
281,442 cords	Pulpwood	\$ 17.50	\$ 4,925,235
— FBM	Plywood Logs, Poplar	\$ 38.00	—
299,205 pieces	Railway Ties	\$ 2.70	\$ 807,854
2,975,140 cubic feet	Round Timber	\$ 0.53	\$ 1,576,824
317 cords	Slabs	\$ 12.00	\$ 3,804
211	Trees for transplanting	\$ 2.00	\$ 422
	TOTAL		\$ 41,809,645

## FORESTRY TRAINING BRANCH

An interesting variety of programs was presented through the Training Branch again this year. Major efforts were expended on the in-service technician training program, the technician-level forest technology course, and fire control training. Work experience and training were extended to young men through the Junior Forest Ranger Program, and several short courses were presented at various times.

The two-year forest technology course continued to be offered through N.A.I.T. A total of 28 students graduated in the class of 1970, finding employment in the natural resources field throughout western Canada and abroad.

Twenty forest technicians were graduated through the Advanced Forestry Course. The class of 1971 consisted of 19 Alberta Forest Officers and one Yukon Forest Service Ranger.

A Basic Parks Course was developed with the Parks Division. This is an introductory 10-week course for Alberta Park Wardens. It will be followed by a 6-month Advanced Parks Course to bring them to technician status.

These are the courses which were given at Hinton during the fiscal year:

Course	Length (weeks)	Total Attending
<b>A. Technology and General</b>		
Forest Technology Course	7 (conc'l.)	28
Spring Forestry Camp	1	25
Forest Technology Course	26 (cont'd.)	25
Fall Forestry Camp	1½	44
Advanced Forestry Course	23	20
Basic Ranger Course	6 (conc'l.)	19
Supervision and Planning for Chief Rangers	2	11
Statistics in Cruising	½	10
Forest Management Techs.	½	18
Middle Management — (C.P.O. host)	1	23
<b>B. Fire Control</b>		
Crew Boss (2 courses)	1	40
Indian Liaison Officer Course	½	11
Lookoutman Course	1	12
Timekeeper I Course	1	20
Sector Boss Course (2 courses)	1	54
Emergency Measures Officer Course	½	11
Instructional Techniques Course	2	11
Fire Generalship Course	2	19
Fire Personnel Certification Course	½	32
Large Fire Team Training	½	12

In addition, the following field courses were supervised by the fire control training team:

Course	Length (weeks)	Total Attending
Lookoutman (2 courses)	1 each	20
Firefighter (10 courses)	1 each	541
Fire Crew Training (Banff Nat. Pk.)	2	25
Introductory Fire Behavior (6 courses)	½ each	145
Introductory Fire Suppression (9 courses)	½ each	157

The fire control instructors assisted with fire crew training in Banff National Park, and at the National Forest Fire Training Seminar near Ottawa.

The firefighter and fire overhead courses were given as part of the provincial fire certification scheme. The total cumulative numbers of all certified trainees is shown in the following table. All of these men are from the general public in rural Alberta — the response to and results of this program are very encouraging.

#### FIRE TRAINING AND CERTIFICATION

Category	1963	1964	1965	1966	1967	1968	1969	1970	1971
Fire Boss <sup>a</sup>	20	42	43	49	58	51	4	0	0
Fire Foreman <sup>a</sup>	3	13	23	24	48	19	15	15	0
Sector Boss <sup>b</sup>	—	—	—	—	—	—	16	27	52
Crew Boss <sup>b</sup>	—	—	—	—	—	—	61	108	146
Straw Boss	—	5	10	15	76	147	233	310	374
Firefighter	—	—	52	361	896	1,198	1,365	1,666	2,207
Camp Foreman <sup>a</sup>	—	—	—	—	2	2	2	2	2
Timekeeper I & II	1	1	1	29	42	65	79	109	125
Cooks	—	—	—	—	4	4	4	5	5

a — old category, being terminated

b — new category

New untrained field staff is still required to take correspondence courses in mathematics, surveying and forestry. A total of 16 mathematics and 13 surveying courses was completed — representing a total of 325 lessons corrected. Many of these were park wardens.

The Junior Forest Ranger Program was continued with five camps of 12 boys each — a total of 60 young men aged 17 - 18 years. This program provided eight weeks of work and training in the resource management field — and resulted in the completion of many

forest and environmental improvements. Camps were located in the Grande Prairie, Edson, Rocky-Clearwater and Crowsnest Forests. Projects included work on Emerson Lakes — a co-operative development with North Western Pulp and Power Ltd.

The Cache Percotte watershed study was continued, with records contributing to the International Hydrologic Decade. This project, consisting of two small watersheds, is still in the calibration stage. The control flume on Whiskeyjack creek was replaced with one having a greater capacity.

Many travelling school groups visited the Hinton facilities. Staff gave talks on resource management and education to these and to other outside groups.



Sky genie exercise — Lac La Biche Training Course.



Camp kitchen and two certified fire cooks.





Forestry instructors — Lac La Biche training camp.



Physical training exercise — soft ball competition.



Crew sleeping tents.



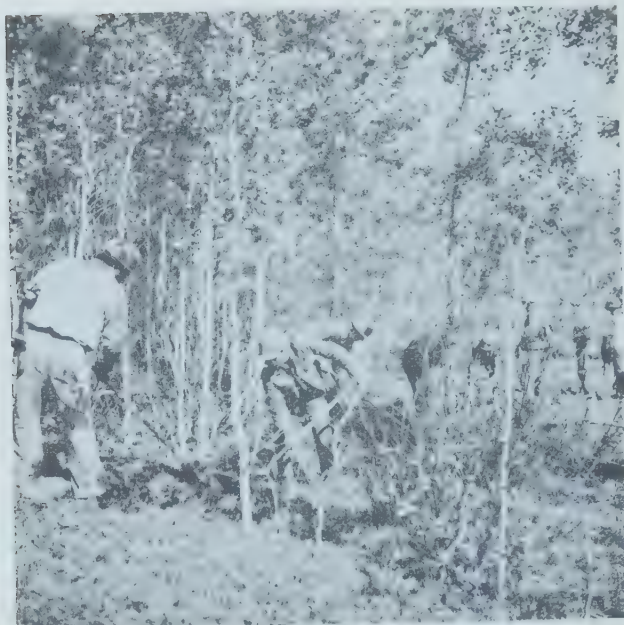
Physical training exercise — volleyball.



Crew No. 3 building pump relay tank.



Dave Brown and Mike Pozniak instructing on organization.

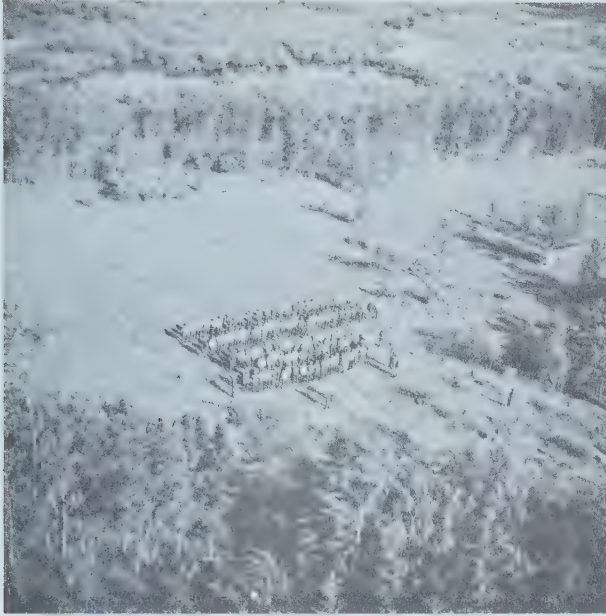


Building the fireline.



Training area taken from helicopter.





120 firefighter trainees taken from helicopter.



An intent fire crew receiving instruction on safety and first-aid.



Supper time.



**FISH AND WILDLIFE DIVISION****REPORT OF THE DIRECTOR***G. R. KERR*

If one can generalize the three basic steps of fish and wildlife management as being sustained harvest, habitat protection and habitat development, then one could say that during the past twelve months there has been a conscious shift in emphasis from step one to step two and partially into the area of habitat development. Until relatively recently the primary emphasis of the Fish and Wildlife Division has been the harvesting of fish and wildlife resources and the enforcement of regulations governing that harvest. In relatively recent times the discussion has centered primarily around steps two and three of management objectives resulting in a shift away from maximum harvest in 1970 and a planned continued shift towards more conservative management and quality of recreational experience in the future. This shift is necessary in order that limited staff and facilities can be concentrated in areas of environmental concerns.

Detailed project investigations were intensified in an effort to gain knowledge of the environmental needs of various wild creatures to survive and flourish. This knowledge will allow for land management considerations which should make it possible to retain abundant wildlife and fish populations in the future for increasing public demands. At the same time, enforcement investigations have shifted towards the more serious harvest regulation infractions and environmental control legislation investigation has been intensified.

The increasing mobility of the outdoor recreationist coupled with the relatively fixed manpower capability of the division has necessitated increased staff mobility through the use of aircraft and other forms of transportation plus the development of a radio communications network.

Whereas fish and wildlife resources are entirely dependent on the condition of the land and the vegetation growing upon it, the growing complexity of land use development will necessitate a much increased emphasis in land use management. Also the growing intensity of the conflict between landowners and resource users prompts the division to take a meaningful leadership role in the future.

Planning and technical investigations leading towards the development of a new trout hatchery in Alberta was conducted in 1970 which should lead towards finalized plans and the possible initiation of construction in 1971. The completion of such a project will be instrumental in allowing the division to meet its fish stock demands in future years.

## FISHERIES

Fisheries management in the province is concerned with the maintenance and development of two distinctive types of fisheries, the recreational or sport fishery and the commercial fishery. Management of the recreation or sport fishery is directed toward producing quality angling for recreation, and involves the equitable distribution of the fish resource for an increasing demand, maintenance of existing sport fish populations, the creation of sport fish populations in new areas by fish propagation and stocking and the protection and maintenance of suitable fish habitat. Management of the commercial fishery is directed at maintaining a sustained yield and quality of those fish species that are utilized for human food.

The relatively new and rapidly expanding endeavour of game fish farming encompasses both recreational and commercial aspects of fish production. Private game fish farms are in a small way answering the demand for recreational fishing and a few commercial game fish farms are experimenting with raising trout for commercial purposes.

The management of the fisheries is organized on a regional basis. Figure 1 shows the regions and the location of the regional offices of the Fish and Wildlife Division.

### REGIONAL AND SECTIONAL OPERATIONS

#### 1. LETHBRIDGE

##### **Stream Fishery Management Program**

As an initial step in planning and implementing a stream fishery management program, an inventory of streams in the region was compiled. The inventory included the name and location of the stream, fish species present, water flows, present and potential sport fishing value, present land status, public access, stream use, and any detrimental or polluting activities affecting the streams.

In summary, the inventory shows a total of 210 streams in the region having a total length of 2421 miles. Water flow was permanent for 77 per cent of the total miles, intermittent for 19 per cent and unknown for 4 per cent. Assessed damage to streams which was inimical to fish production amounted to 30 per cent of the permanent flow mileage, 24 per cent of the intermittent flow and 9 per cent of the unknown flow mileage. Agricultural practices contributed the major portion of the damage and other forms of land use practices contributed most of the remaining damage. Most damage was in the form of water and stream bed siltation.

The results from this inventory program were used in the preparation of a public information booklet entitled "A Guide to Sport Fishing in the Lethbridge Region".

##### **Evaluation of the Chain Lake Sport Fishery**

An evaluation of the Chain Lake sport fishery was carried out to assess the fishing pressure and the success of the trout stocking program. Over a period of 101 days during the spring and summer, 10,900 anglers spent 72,900 hours to catch 21,800 rainbow trout. As an adjunct to the evaluation, records were kept of distances travelled by anglers and the estimated value of their equipment. The 10,900 anglers used 5,200 automobiles and travelled 664,000 miles. Their fishing equipment, including boats, had an estimated value of \$2,355,000.00.



FIGURE 1

## **2. CALGARY REGION**

### **Cataract Creek Study**

A study, partially financed by the Hook and Hackle Club of Calgary, was initiated on Cataract Creek to assess the present fishing pressure, the harvest, the characteristics of the stream as trout habitat, the effect of present management techniques and any factors that are reducing the fish production of the system. The field work phase of this program was completed during 1970 and the report will be completed during 1971.

### **Bow River Study**

A comprehensive study entitled "Evaluation of the Ecological and Recreational Impact of Reservoir Development - A Case Study of the Bow-Highwood Site" has been initiated. Some factors that will be assessed are fish population estimates, spawning migration patterns of Bow River rainbows, present potential of reservoir site to produce fish and wildlife and the effect of sediment loads in the water on the ecology of the system. To date 81 rainbow trout have been tagged and returns are coming back slowly.

## **3. RED DEER REGION**

### **Swan Lake**

Studies of the spawning population of lake trout were continued during 1970 to assess the effect of the revised angling regulations. In 1970, 151 lake trout were captured as compared to 96 in 1968 and 95 in 1969. This data suggests that the restricted angling season of June 1 to January 15, has been beneficial to the lake trout population.

An attempt to take spawn from the lake trout was unsuccessful. Spawn taking and early incubation of eggs was successful, but high water temperatures caused severe mortality just prior to hatching.

### **Buffalo Lake**

A decline in angler catch success for pike in Buffalo Lake has suggested a decline in the pike population. An on-going project is in operation to assess the factors affecting the pike population. The first stages of the study are investigating the pike spawning and factors that may be limiting spawning success.

### **Wilson Lake**

Native cutthroat trout were stocked in Wilson Lake during 1966 to provide a source of eggs for future fish culture and stocking. Cutthroat were found spawning several miles down the outlet stream in June 1970. Hatchery personnel had difficulty with taking spawn; however they managed to collect 80,000 eggs. Later in the fall of 1970, fingerlings were observed in the stream, indicating that there had been some successful natural spawning.

## **4. EDSON REGION**

### **Tri-Creek Watershed Study**

During 1970 co-operating agencies continued to collect and analyze data designed

to assess the natural conditions in Wampus, Deerlick and Eunice Creek watersheds, prior to pulp harvesting operations. The Fisheries Branch contributed the following:

- (a) Fish populations and characteristics were determined. The primary fish species was rainbow trout.
- (b) Measurement of stream bottom material and the present channel pattern at permanent sampling stations.
- (c) Stream bottom fauna was measured and classified.
- (d) Water temperatures were continuously recorded.

A large part of this work was the subject of the thesis of a graduate student from the University of Alberta.

#### **Miller's Lake Aeration Project**

Miller's Lake is a relatively shallow pothole that has a history of fish mortality of varying annual intensities, resulting from oxygen depletion during the winter months. An effort to alleviate this mortality by adding oxygen to the water was initiated in 1968 and is presently continuing.

#### **Fish Habitat Improvement**

In 1969, Victor, Grande Cache, Middle and Lower Pierre Greys and Chrystina Lakes were treated with the chemical "rotenone", to eradicate undesirable non-sport species of fish. Wakefield fish barriers were constructed in early 1970 on the outlet streams of Grande Cache and Pierre Greys Lakes to assure against the introduction of the undesirable species. All of the lakes, except Upper Pierre Grey were stocked with trout during 1970. Victor, Grande Cache and the two Pierre Greys Lakes were stocked with rainbow trout, and Chrystina Lake was stocked with eastern brook trout. Upper Pierre Grey Lake will be stocked with eastern brook trout in 1971.

### **5. ST. PAUL REGION**

#### **Cold Lake Coho Salmon Project**

The introduction of coho salmon into Cold Lake with the objective of establishing a viable sport fishery was initiated in 1970. Ninety-three thousand coho-smolts were placed in holding ponds on the Medley River and held there for three weeks prior to being released and allowed to migrate to Cold Lake. This retention in the Medley River was necessary in order to imprint the characteristics of the water of this system on the small fish. Such imprinting is necessary to insure that the fish will return to the system when they have matured and are ready to spawn.

After their release, the coho smolts migrated into Cold Lake where they remained during the rest of the summer. Feeding habits and growth during this period were up to expectation. A run of "jack" (precociously mature males) to the Medley River occurred in August and provided excellent angling for fish ranging in size from one to two pounds. The majority of the salmon remained in the lake and were feeding heavily on ciscoes. The final evaluation on the success of this introduction will come in 1971, when the salmon should mature and return to the Medley River to spawn.



The introduction of the salmon to Cold Lake has necessitated a change in the management of other species of fish. The fall commercial fishery for ciscoes was cancelled due to the high incidence of salmon in the nets.

### **Beaver River Survey**

A survey of the Beaver River, northwest of Fort McMurray, Alberta was completed during 1970. The survey was aimed at assessing the present and potential fisheries value of the watershed. The river lies within the lease of a company which plans to refine petroleum products from the tar sands in the area. This type of mining operation will affect the river and its fisheries potential. The survey provided the information on the stream as it exists and prior to any alteration.

## **6. PEACE RIVER REGION**

### **Commercial Fisheries**

An extensive program of assessing commercially harvested fish populations was carried out on a number of lakes in the Peace River Region in 1970. Information on age, size and growth rates of fish were collected from Burnt Lake, Utikuma Lake, Snipe Lake, Peerless Lake, North and South Wabasca Lakes, Lesser Slave Lake, Sturgeon Lake, Vandersteen Lake and Graham Lake. The information collected allowed an assessment of the effect of the commercial fishery on the fish stocks.

### **Lesser Slave Lake**

The results of the 1969 test netting program on Lesser Slave Lake was reported and the conclusions drawn were that a whitefish season using 5½ inch gill nets would not be economical. The report went on to make a number of other fisheries management recommendations.

In September of 1970 a restricted whitefish season was opened on Lesser Slave Lake. An estimated 78,000 yards of 5½ inch gill nets were set and only 7,785 pounds of whitefish were caught. This small catch verified the findings and conclusions from the 1969 test netting and showed that no change in the whitefish population had occurred.

The 1970 cisco catch in Lesser Slave Lake was the lowest it has been in 28 years. Only 730,000 pounds of cisco were taken, compared to a yearly average of three million pounds in previous years. The low cisco catch is attributed to a combination of less fishing effort and an apparent decline in the size of the cisco population. It has been suggested that low water levels in 1967 and 1968 may have affected the hatching success of the cisco population.

### **Sport Fishing**

Eleven small lakes were tested for depth and dissolved oxygen to assess their suitability to maintain sport fish populations without incurring annual winterkill losses. Of the eleven lakes tested, six were totally unsuitable, four were borderline and only one was classed as suitable.

### **Distribution of Fishes in the Peace River**

Samples of fish were taken from several locations along a 120 mile stretch of the



Peace River to determine the species present and their distribution. Walleye, goldeye, burbot and longnose suckers were the most common species taken. As an adjunct to this study, samples of the previously mentioned species were analyzed for the content of chlorinated hydrocarbons in their systems. The analysis showed that the DDT level in these fish was very low.

## RESEARCH SECTION

The Research Section is primarily involved in long term research that is associated with the basic understanding of biological problems associated with fish and fish populations. At present the section is involved with the investigation of the ecology of lake whitefish in Buck and Pigeon Lakes. Although the study has several objectives, the primary one is to develop an understanding of the reasons for the marked difference in size of whitefish between Buck and Pigeon Lakes. The whitefish in Buck Lake are of a normal size and in Pigeon Lake they are small and stunted. Investigations into growth rates, spawning habits, feeding habits, predator-prey relationships and the existing state of the habitat are presently being carried out.

The results from this extensive study are expected to be of considerable value to the management of whitefish populations throughout Alberta.

## POLLUTION CONTROL SECTION

The operation of the Pollution Control Section involves both field and laboratory work on pollution problems. In the field, biological surveys were again conducted on the major rivers in Alberta and included the Oldman, Bow, Red Deer, North Saskatchewan, Athabasca and Smoky Rivers. These investigations were designed to assess the present ecological situation and any ecological changes in the major rivers due to industrial and domestic waste discharges. In addition, a survey of the Wapiti River was initiated to gather information on the present ecological situation prior to potential industrial development.

Laboratory work involved the testing of a number of substances for their toxicity to fish. Bioassays were carried out on the following:

- 289 samples of oil well sump pit contents
- 22 samples of oil spill clean-up detergent
- 20 samples of different crude oils
- 20 samples of possible pollution court cases
- 12 samples of specific chemicals
- 5 samples of gas plant effluent
- 2 samples of foam that was associated with oil spills

Rainbow trout fingerlings are used in these assays, as they are a sensitive indicator of toxicity.

Increasing numbers of samples of fish from a large number of locations have been sent to the Fisheries Research Board Laboratory in Winnipeg for analysis of mercury content. The Food and Drug Directorate of Canada has established the level of 0.5 parts per million as the level of mercury in food, above which it is unsafe for consumption. A warning not to eat fish was issued to the public regarding fish taken from the North and South Saskatchewan Rivers and the Bow River. The mercury level in fish from these waters exceeded 0.5 parts per million.

## A.R.D.A. SECTION

## Canada Land Inventory — Fisheries Section

The Sport Fish Capability Study section of the Canada Land Inventory has proceeded rapidly and to date seven maps covering areas in the southern part of the province have been submitted to the Federal Maps Depository. In addition, nine maps have been provided for special projects of various provincial agencies.

Field surveys are continuing and the areas of St. Paul, Lac La Biche, High Level and Fort Vermilion have recently been completed. A survey of the Wabasca River was initiated, however the analysis of the sport fish capability has not been completed.

## RECREATIONAL FISHERIES

Table 1 gives a comparison of the licence sales for recreational fisheries for the period 1965 to 1971. The table shows a condition of general increase in sales with a substantial increase in the Non-Resident Non-Canadian sales, particularly the limited or short term licence.

TABLE 1 RECREATIONAL FISHERIES LICENCE SALES

Type of Licence	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Angling Licences	122,537	133,092	136,693	—	—	—
Resident & Non Resident Canadian	—	—	—	139,253	150,225	145,491
Seasonal Non Resident-Non Canadian	—	—	—	1,621	701	723
Limited Non Resident-Non Canadian	—	—	—	—	2,052	2,123
SUBTOTAL	122,537	133,092	136,693	140,874	152,978	148,337
Spear Fishing Licences	87	141	147	244	231	328
Sturgeon Angling licences	—	—	—	135	56	40
Zone Recreational Net Fishing Licences	—	—	—	103	37	62
Trophy Lake Licences	—	—	—	—	—	281*
TOTAL	122,624	133,233	136,840	141,356	153,302	148,767

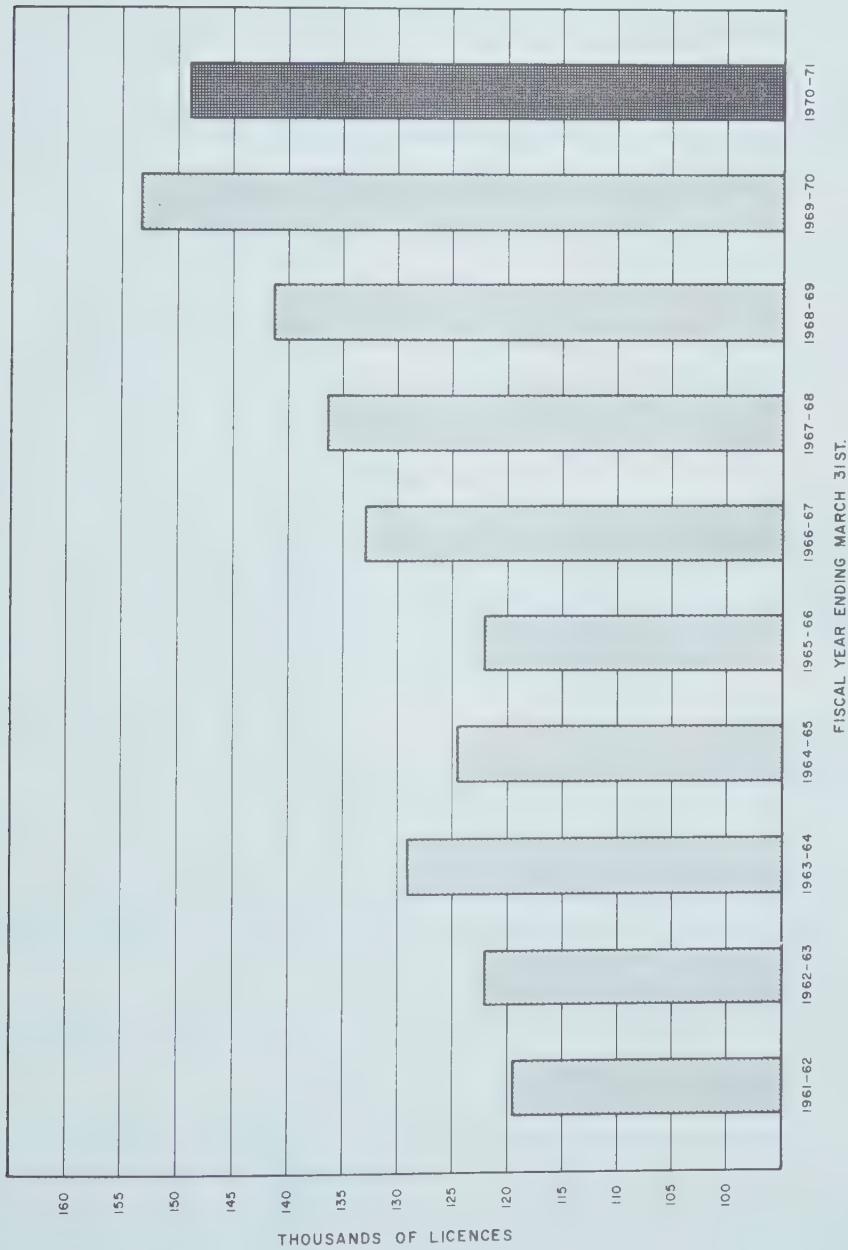
\*Not included in total, as anglers licence required before purchase of trophy lake licence.

During 1970 a new angling licence, the Trophy Lake Licence was introduced. Seven lakes which consistently produce very large sport fish have been designated as Trophy Lakes. This designation means that they will be managed to produce large or trophy size fish. Such management requires a restricted take of fish and a knowledge of the number of anglers using the lakes. As part of the management, the licence allows an assessment of demand by anglers.

The lakes involved are:

God's Lake	90-2-W5th
May Lake	66-3-W4th
Seibert Lake	66-9-W4th
Andrew Lake	125-1-W4th
Gardiner Lake	98-16-W4th
Namur Lake	97-17-W4th
Winefred Lake	75-4-W4th

FIGURE 2.  
ANGLING LICENCE SALES  
IN ALBERTA 1961-71



### Fish Culture and Stocking

In 1970 a total of 177 lakes and streams were stocked with 5,686,297 fish and fish eggs of various species. The distribution of the stocked fish by region is given in Table II.

TABLE II REGIONAL DISTRIBUTION OF STOCKED FISH

	Number of Fish	Number of Lakes and Streams
Region 1 — Lethbridge	1,743,110	37
Region 2 — Calgary	1,159,996	33
Region 3 — Red Deer	362,390	55
Region 4 — Edson	1,408,536	33
Region 5 — St. Paul	823,485	14
Region 6 — Peace River	188,780	5

In addition to the above stocking, 92,950 rainbow trout were stocked in an experimental trout farming project.

The species composition of the 5,686,297 fish stocked is shown in Table III.

TABLE III SPECIES COMPOSITION AND NUMBERS OF STOCKED FISH

	Number	Per Cent
Rainbow Trout	3,475,416	61.1
Cutthroat Trout	48,000	0.9
Eastern Brook Trout	261,000	4.6
Lake Trout	76,950	1.3
Kokanee	103,950	1.9
Perch	69,125	1.3
Pike	9,556	0.3
Walleye	251,180	4.2
Walleye (eyed eggs)	1,300,000	22.8
Coho Salmon	91,080	1.6
	5,686,297	100.0

Table IV shows total production of fingerling and yearling trout, kokanee and coho salmon from the Calgary Fish Hatchery and the Raven Rearing Station over the past five years.

TABLE IV TOTAL HATCHERY PRODUCTION OF FISH FOR THE YEARS 1966-70

1966	3,747,564
1967	3,053,583
1968	3,456,955
1969	3,639,995
1970	4,149,386

The design of a new fish hatchery in Calgary continued with a planned date to begin construction set for the summer of 1971.

### Game Fish Farms

Following the publication of the successful results of raising trout in small farm dugouts and ponds in Manitoba, there has been a sharp increase in the demand to carry out similar operations in Alberta.

Two forms of fish farms are licenced in Alberta, the commercial game fish farm and the private game fish farm. The commercial category covers operations which sell fish either for food or for planting in licenced private ponds. The private licence covers small, privately owned ponds which are a source of personal recreation and food supply. Under the private licence no sale of fish or angling rights are allowed.

Table V summarized the numbers of commercial and private game fish farm licences issued for the past five years. The dramatic increase in 1970 is very evident.

TABLE V GAME FISH FARM LICENCES

Year	Commercial	Private
1966-67	1	9
1967-68	—	15
1968-69	3	14
1969-70	2	24
1970-71	9	121

### COMMERCIAL FISH FARMING FEASIBILITY STUDY

Several small ponds, located in all regions have been stocked with rainbow trout with a view to assessing the feasibility of raising trout to an acceptable market size over a summer and over longer periods of time. To date indications are very variable in terms of production, growth, and taste. The program is continuing to provide information on all facets of the economic feasibility of producing fish in small ponds.

### Commercial Fisheries

Commercial fishing for a number of species of fish is carried out in all areas of the province, but the greatest concentration of effort is in the central and northern areas.

Table VI gives the numbers of various commercial fishing licences and licences of associated operations which were sold during the period 1966-67 to 1970-71. There is a very evident decline in the number of people engaging in the commercial fishery.

The change from the Fish Dealer's Licence to the Fish Marketing Licence in 1969-70 was the result of the development and initiation of the Freshwater Fish Marketing Corporation.

Commercial fish production for the fiscal year 1970-71 was seriously reduced with respect to total production of all species. The major reduction was due to a partial failure in tullibee production in Lesser Slave Lake for animal food, combined with a decreased demand for fish for animal food throughout the province as a result of lower fur prices. Value of the production to fishermen and the value as marketed was lower, but since production of higher priced species was close to previous years, marketed value was not drastically reduced.



A record of commercial fish production value of the catch and market locations for the fiscal years 1966-67 to 1970-71 is presented in Table VII. A graphic representation of total fish production in Alberta for the fiscal years 1950-51 to 1970-71 is shown in Figure 3. Landings of lake whitefish for the same period are presented in Figure 4 and landings of walleye for the fiscal years 1940-41 to 1970-71 are shown in Figure 5.

TABLE VI COMMERCIAL FISHING LICENCE  
AND ASSOCIATED OPERATION LICENCE SALES

1966-67 TO 1970-71					
Type of Licence	1966-67	1967-68	1968-69	1969-70	1970-71
Fisherman's Commercial Licences	4,360	4,758	—	—	—
Zone Commercial Licences			378	372	467
Zone Fisherman's Licences			1,219	1,594	1,396
	4,360	4,758	1,597	1,966	1,863
Domestic Licences	51	78	109	104	91
Fish Dealer's Licences	51	70	56	—	—
Fish Marketing Licences	—	—	—	7	14

TABLE VII COMMERCIAL PRODUCTION OF FISH

Species	1966-67	1967-68	1968-69	1969-70	1970-71
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
Whitefish	1,836,987	2,422,379	2,063,057	2,450,022	2,339,934
Trout (lake)	3,528	2,787	4,425	3,332	3,718
Walleye (pickerel)	286,286	221,087	283,035	200,257	136,124
Perch	274,509	178,844	155,127	224,477	279,488
Pike	1,224,664	944,510	1,431,879	1,004,104	760,653
Tullibee	6,492,126	5,859,370	6,996,094	6,189,233	2,902,960
Ling	300,145	588,414	722,074	389,899	214,795
Suckers	88,418	220,016	330,211	344,171	257,465
Goldeye	1,807	284	737	276	420
Coho Salmon (in number)	—	—	—	—	40
Totals	10,508,470	10,437,691	11,986,639	10,805,771	6,895,597
	Weight Lbs.	Value to Fishermen \$		Value as Marketed \$	
Totals for year 1966-67	10,508,470	832,711.79		1,397,485.90	
Totals for year 1967-68	10,437,691	874,525.89		1,559,976.04	
Totals for year 1968-69	11,986,639	932,940.89		1,466,369.67	
Totals for year 1969-70	10,805,771	1,017,162.89		1,727,743.78	
Totals for year 1970-71	6,895,597	826,268.91		1,587,718.45	



## FISH EXPORTED FROM ALBERTA 1970-71

Species	Freshwater Fish Marketing Corporation — Winnipeg Lbs.
Whitefish	1,364,564
Rainbow Trout	12,540
Walleye (pickerel)	107,266
Perch	150,204
Pike	349,917
Tullibee	394,332
Suckers	2,558
Total	2,381,381

Note: Figures for Alberta fish exported to U.S.A. and other countries are not available.

FIGURE 3.  
PRODUCTION OF COMMERCIAL FISH  
IN ALBERTA 1950-71

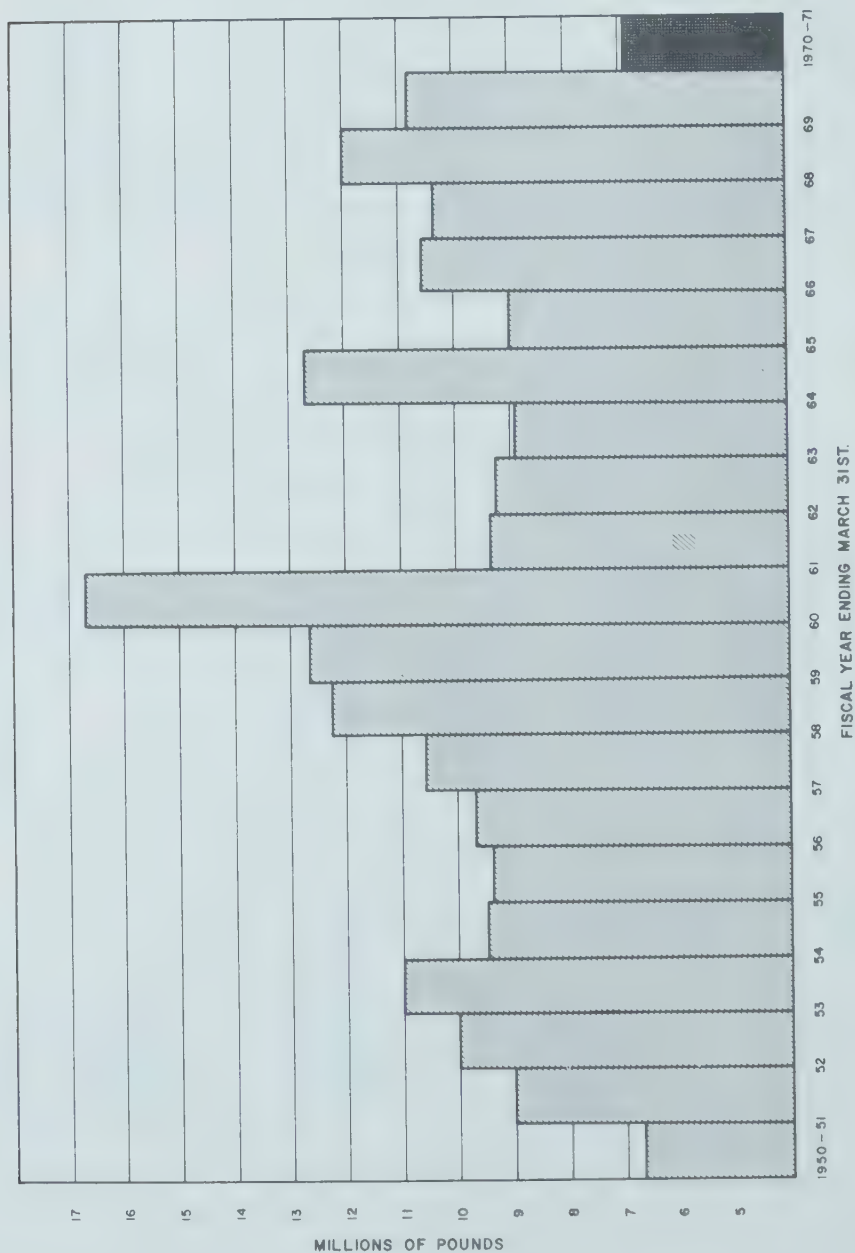


FIGURE 4.  
COMMERCIAL PRODUCTION OF LAKE  
WHITEFISH IN ALBERTA 1950-71

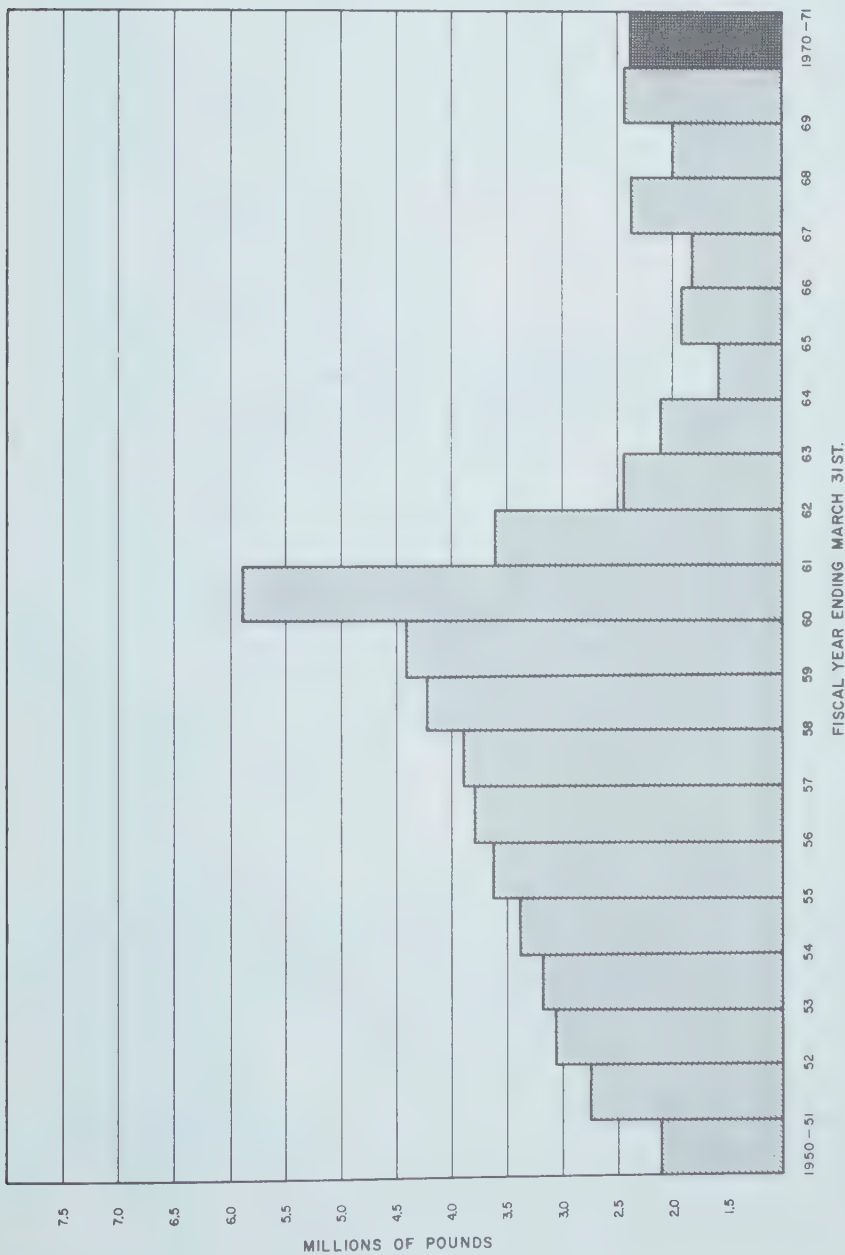
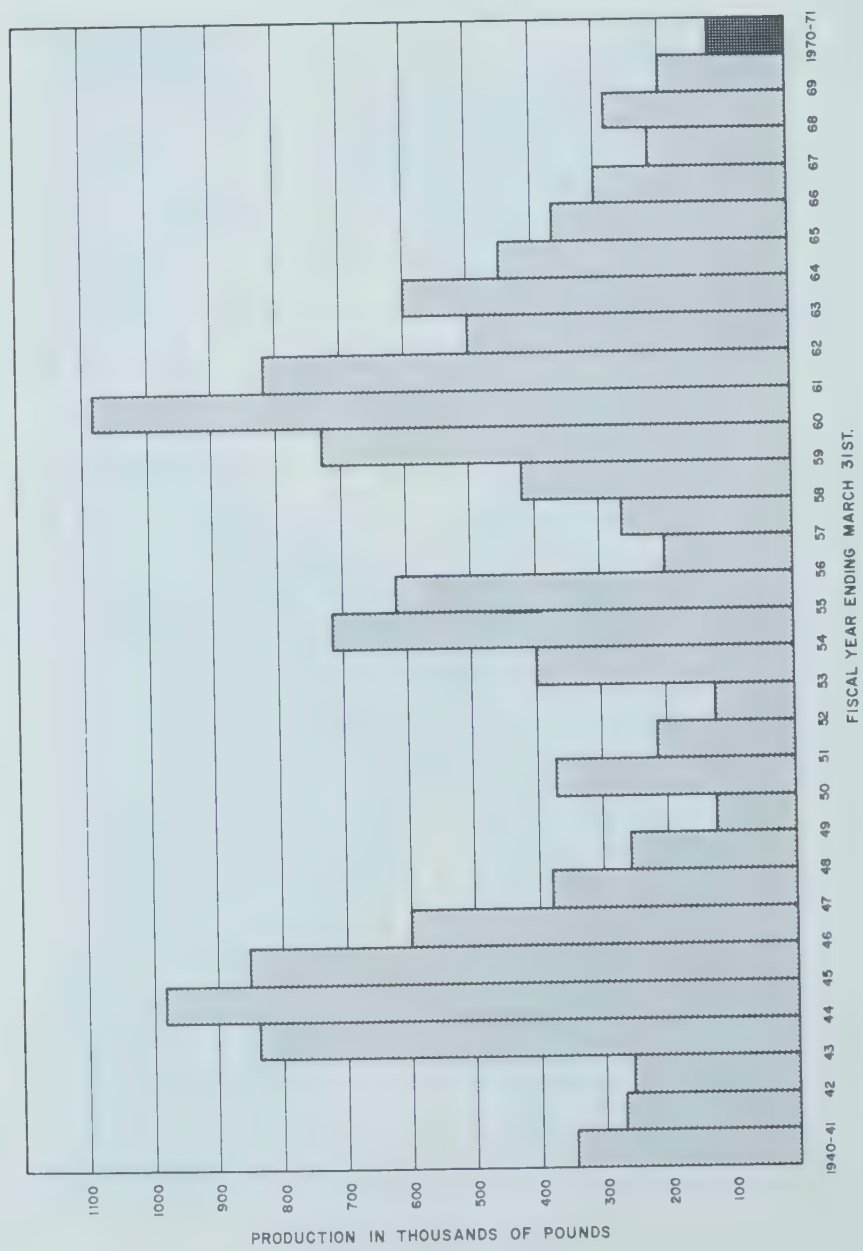


FIGURE 5.  
COMMERCIAL PRODUCTION OF WALLEYE  
IN ALBERTA 1940-71



## WILDLIFE

### UPLAND BIRDS

Only limited biological work on populations of upland birds has been accomplished in recent years. Despite the closed pheasant season in 1969, there was only a mediocre fall harvest in 1970. This was predicted by our technical staff on the basis of adverse weather and diminishing habitat. Hunters had a successful season on sage grouse and Hungarian partridge. The only species showing localized population declines was the sharptail grouse in the grassland area. The predicted crash of ruffed grouse populations in northern Alberta did not occur in 1970. The populations and hunter success remained high throughout the parkland and forest areas. With increasing public awareness and education, the use of mercury by landowners has been curtailed, and better care is taken today of treated wastage grain. The mercury levels of our Hungarian partridge and pheasants dropped considerably in 1970, but certain other biocides must be monitored in the future. The experimental hen pheasant season conducted at Scandia, near Brooks, resulted in a recommendation for a limited hen pheasant season in 1971 for the whole province.

### WATERFOWL

In 1970, improved water conditions for waterfowl was reflected in high waterfowl production and duck and goose hunter success. For detailed information on the status of the various species and other work done on waterfowl, the reader is referred to the 1970 Waterfowl Technical Committee Report, published by the Fish and Wildlife Division.

A crop depredation pilot project was initiated on two fronts in 1970. In the Grande Prairie area, an area of intense crop damage, various experimental lure crops such as bait stations, flooded lure crops and dry swathed lure crops were established. The response of waterfowl to these artificial controlled situations was monitored and compared to a control area at Falher. Another smaller lure crop site was established at Beaverhill Lake east of Edmonton. This area was monitored in contrast to a control area at Whitford Lake. Several more years of operation are envisioned for this particular program to investigate waterfowl response to these lure crops under different harvest conditions. As 1970 was not a high crop damage year, with an early harvest, it remains to be seen which approach is most feasible under adverse harvesting conditions. A detailed report is available from the Fish and Wildlife Division.

### BIG GAME

After an extensive survey in July, the southern antelope populations were found to be in an improved condition as compared to the situation in 1969. With a total population of 11,000 antelope in Alberta, a limited season was declared in four zones, with 200 hunting permits per zone being issued. The hunter success rate of 60 per cent resulted in a legal harvest of 481 bucks. Hunters and landowners reported a successful season with no scarcity of legal bucks.

There was no goat season in 1970. Grizzly hunting during the fall season was eliminated to further protect this species; also, the spring-only hunts eliminate poor quality hides and reduce the illegal baiting of grizzlies.

Mule deer populations continue to decline in more areas, especially in the true prairie and parkland region. Protection of mule deer by reduced hunting seasons is hindered by the continued contraction of available winter ranges.

Bighorn sheep surveys indicate that significant lamb mortality may occur in the fall when populations shift from the alpine zones to the forest zone to forage. A radio telemetry study will begin in 1971 to determine where, when and how sheep mortality occurs in that region. In addition, the survival of orphaned lambs will be compared to the survival of unorphaned lambs to test the effects of non-trophy sheep seasons.

No other major changes in seasons were effected in 1970. In the future, periodic monitoring of the relatively abundant and widely distributed big game species will allow our professional staff to concentrate on key species, associated problems and habitat programs. Individual project work will lead to better management decisions and provide more than superficial answers to problems.

### PARTICULAR PROJECTS

The Canada Land Inventory is in its final stages. Some of the problems encountered involve border matching with other provinces and previously mapped regions. The completed reports and maps are being widely used by other government land-use planners and the public. Many of the present land-use-assignment studies, regional plans, and the Foothills Resource Allocation Study would be almost impossible to conduct without the basic C.L.I. data.

The CD-14 range study has shown some good results with burning, logging and/or bulldozing appearing to be excellent tools for creating and maintaining highly productive browse ranges. These tools could be used more extensively in the future once they become accepted practices in wildlife management. Conclusions cannot be drawn prematurely but controlled manipulation of vegetation has been successfully carried out elsewhere to increase food productivity.

In 1970, vegetation, population, disease and other detailed investigations of the Willmore Wilderness Park Mountain goat populations were continued. Access and harvest, still appear to have been the major factors responsible for the overall population decline.

The Lethbridge region is participating in an international antelope migration and movement study. Antelope, being highly mobile and opportunistic, do not recognize local or state boundaries. This study should facilitate the management of the continuous herds that wander between Alberta, Saskatchewan and Montana. An international and inter-provincial marking and observation program was begun in 1970. A new antelope aerial survey system has also been developed.

A study concerning the extent and condition of antelope winter ranges in southern Alberta was initiated. This extensive survey will aid land managers in future land use conflicts arising in these key ranges. Critical winter ranges must be maintained in as near a pristine vegetative condition as possible if antelope populations are to be maintained. Other areas could be managed with some range improvement for livestock.

The Oldman River Elk Study has revealed some fascinating biological facts. After tagging a number of the elk during fall and winter in a corral trap, extensive local and long-distance movements were recorded. Previous assumptions of a self-contained herd are in question which would effect the management of elk in the entire southwest of the province.

The Ya-ha-tinda elk study has developed into three phases: an evaluation of season



regulations, the determination of land-use problems on critical elk ranges, and the determination of herd distribution and condition. The 1970 season, from mid-January to the end of February, allowed 70 hunters per week for six weeks. Hunter success was similar to the previous year and is directly related to hunting pressure and weather conditions which affected elk distribution. Reproductive data obtained from the examination of pregnant cows shows a positive response to hunting pressure with increased production and a more even sex ratio of embryos. The condition of the elk remained poor in the 1969-70 winter despite the mild winter, indicating the extremely poor range condition.

The Pine Lake Deer Study, to determine the effect of hunting pressure on the mule and white-tailed deer populations, has been partially completed. With an increased hunting pressure in the area, the white-tailed deer have been over-harvested. However, the mule deer population has remained fairly uniform during the study with a reduced hunting pressure. The most significant aspect of the study was the effect of season manipulation on hunting pressure: as the number of days per hunter remains constant despite changes in season lengths.

The study on the reproductive capability of white-tailed deer in Camp Wainwright continued in 1970. Conception rates, peak fawning and breeding season, correlation of winter and spring weather to fawn survival are being studied. This study will be completed in 1971.

The Trophy Crest Program for mule deer yielded some valuable data on kill distribution and age breakdown of the mule deer by region and for the province.

A moose study in the Swan Hills, attempting to assess hunter influence on moose distribution and population dynamics, started in 1970 with a moose tagging operation resulting in records of seasonal movements. Harvest statistics are being compiled through voluntary hunter checks.

The Black Bear Study has provided some insight into the biology of the species. This will have broad implications for both black and grizzly bears. By the end of 1970, 108 individual bears were captured and marked 210 times providing information on home ranges, movements, age distribution, food habits and parasite loads.

The Minburn Beaver Study is almost completed. Economic as well as biological statistics are being analyzed, as the value of this furbearer on a commercial basis is surprisingly high and its production potential in a parkland pothole situation is immense.

Pesticide analyses were continued on two upland game birds in 1970. Over 700 birds were collected and examined for biocide residues. Mercury levels dropped almost in direct accordance with a 40 per cent reduced use of the seed treatment.

In 1970, the first full-length season on hen pheasants in Alberta was held in a 50 square mile study area at Scandia-Rainier. Three thousand free permits for hen pheasants were issued and approximately 1600 cocks and 1400 hens were killed. Fourteen hundred banded birds were released in the area during the hunting season to test hunter efficiency and it was found that hunters removed about 50 per cent of the banded cocks and approximately 40 per cent of the banded hens. These percentages are well below the average annual loss of 75 per cent that occurs in both sexes of pheasants in hunted and unhunted populations.

Preliminary results from two years' study of spring released hen pheasants indicate

wild trapped hens produce more pheasants for the hunter's bag than hatchery hens when held over winter and released in the spring.

In a study of sharptail grouse in the Wainwright military Camp area it was found that by systematically removing male sharptails from dancing grounds they were quickly replaced from a floating population of non-territorial males up until early April. The pattern of filling vacancies indicated a social arrangement where a central male was surrounded by three concentric rings of males. A hierarchy was suggested in which dominance ranks decreased radially outward from the centre, but males making up a ring were of similar dominance. One dancing ground that had all the males removed in the spring of 1969 failed to become established again the following spring.

The Brooks Research Centre started to assume some new responsibilities in 1970. In addition to providing pheasants for various operations the station is being utilized to hold big game animals and waterfowl. In conjunction with these maintenance-type operations, the Research Centre is managing the Millicent Property with the initiation of experimental upland bird habitat.

More and more of our overall function as a branch has been directed towards land use. Coal, oil and gas exploration and exploitation programs are being monitored by all of our staff. In 1970 there was a continuative and tremendous upsurge in land-use activities in the foothills and mountains of our province. Helping to guide industry to minimize habitat and environmental destruction and to maximize restoration has become a greater and greater part of our responsibility. The land use conflicts are increasing steadily and we must gain knowledge and expertise in ameliorating deleterious conditions. Without the land base our wildlife populations cannot survive.

## ENFORCEMENT

The 1970-71 fiscal year was characterized by another increase in the number of violations of fish and wildlife resource legislation. During the year there were 1,605 charges processed which represents an increase of 11.3% over the preceding year.

On July 1, 1970, the new Wildlife Act came into force which incorporated a number of changes designed around a total wildlife concept. One of the more controversial changes was the redefining of the loaded firearm in a vehicle. Under the new legislation, persons were permitted to carry live ammunition in the magazine of a firearm. Previous legislation required firearm to be empty. This change created an interesting modification in the structure of big game and bird game violations. In previous years firearms violations constituted between 40 to 50 percent of the total infractions processed by the Fish and Wildlife Division. During the 1970-71 fiscal year 183 persons were prosecuted for firearm infractions whereas in the two previous years considerably more persons were apprehended for similar violations (401 in 1969-70 and 309 in 1968-69).

Generally the level of other types of prosecution for violations was slightly higher than the previous year. It is interesting to note that the total charges laid for bird game and big game infractions approximately 400 of these violations were of a serious nature. Although it is a disturbing figure, it is an indicator of an effective enforcement effort. Night hunting with lights however, appears to be on the increase with only limited success in dealing with this type of infraction.

A sharp rise in the number of fishery violations occurred during the 1970-71 fiscal year. This reflects increased enforcement of sport fishery regulations. Special emphasis was given to the surveillance of waters set aside for the propagation of fish. Seventy-three persons were apprehended for angling in closed waters. This compares to 42 similar infractions the previous year. A very significant rise in licence infractions was also realized during the year. Some 356 persons were prosecuted for angling without licences while 44 others were charged for failing to produce licences. With respect to the latter infraction, persons claiming to have licences when checked in the field are given opportunity to produce licences. Failure to produce a licence as requested resulted in charges being preferred. In the majority of cases those who failed to produce licences had not previously obtained licences. The licence infractions processed during the 1970-71 fiscal year represented an increase of almost 100 percent over the previous year. It is interesting to note that persons originating from urban centres committed 62.5% of the violations while 35% of those prosecuted were from rural areas. The remaining 2.5% were infractions committed by non-residents.

There were a number of pollution cases investigated which resulted in charges being preferred under the Migratory Birds Convention Act and the Fisheries Act. The Crown appealed the penalty assessed in one case with the Supreme Court of Alberta increasing the penalty from \$300 to \$750. This was an important case in that guidance was provided for the lower courts in respect to the setting of penalties for pollution infractions.

The international trafficking in illegal wildlife is an increasing problem which necessitates close co-operation between provinces and other countries. During the past year close co-ordinated effort with the United States Fish & Wildlife Service resulted in obtaining convictions for mountain sheep illegally taken in Canada. In addition, information obtained by the Alberta Fish and Wildlife Division, provided valuable evidence in a case involving the killing of a number of desert bighorn sheep in California. Current ef-

forts at the international level are directed at stemming the trafficking of birds of prey such as the peregrine falcon. Information collected to date indicates worldwide trafficking in these birds.

With the increased demands on the wildlife and fishery resources and increased mobility of the public, the need for more effective supervision is apparent. To realize this objective the law enforcement section was authorized to use both fixed wing and rotary wing aircraft for preventive enforcement work. The use of helicopter proved to be useful in pre-season hunting patrol work and providing access to remote locations in the sub-alpine areas. Fixed wing aircraft were used in the North Eastern portion of the province to maintain proper surveillance of activity on trophy and isolated commercial fishing lakes. The use of aircraft also proved valuable in supervising the antelope season and prairie deer season. The overall assessment of the use of aircraft indicates that in many cases, the use of aircraft is far more economical to use than conventional means of travel and permits effective surveillance with only a minimum time-loss factor.

It is expected that with the development of a radio network for the Fish and Wildlife Division, aircraft will be useful in co-ordinating a more effective field enforcement effort. Public relations continued to play a major role in the officers day-to-day activities. During the previous year, the responsibility for co-ordination of the Department's Hunter Training Program at the local level was delegated to the Fish and Wildlife Officer. The plan has proven to be satisfactory with officers attending some 262 hunter-training functions in addition to co-ordinating the program. In addition, officers attended some 430 other public meetings. Officers are to be commended for their excellent effort in public-relations programing as it is realized this type of work involves considerable after hour effort.

Table 1

## PROSECUTIONS

	1967-68	1968-69	1969-70	1970-71
Investigations (total)	890	3,025	3,669	4,226
Prosecutions	854	1,146	1,441	1,620
Convictions	833	1,102	1,387	1,517

(Figures include 61 dismissals,  
42 withdrawals)

Table 2

## FREQUENCY OF VIOLATIONS RESULTING IN CONVICTION

Hunting Infractions	1969-70	1970-71
Loaded firearm in motor vehicle	401 — 41.8%	183 — 20.6%
Illegal possession of game	121 — 12.6%	122 — 13.7%
Unlawfully hunting in a closed season-area	75 — 7.8%	107 — 12 %
No licence	87 — 9 %	87 — 9.8%
Tag Animal securely and immediately		32 — 3.6%
Hunting migratory birds in restricted area		21 — 2.4%
Sunday hunting		18 — 2 %



Fisheries Infractions	1969-70	1970-71
Unlawfully angling without licence	181 — 42.3%	356 — 54. %
More than one rod and one line	127 — 29.7%	102 — 15.4%
Waters set apart for propagation of fish	42 — 9.8%	67 — 10.1%

Table 3

## REGIONAL SUMMARY OF PROSECUTIONS

	Wildlife	Fisheries	Total	Investigations*
Region 1 Lethbridge	82	76	158	351
Region 2 Calgary	141	161	302	348
Region 3 Red Deer	127	32	159	356
Region 4 Edson	99	156	255	204
Region 5 St. Paul	133	182	315	784
Region 6 Peace River	181	64	245	548
Headquarters (Edmonton)	49	41	90	30
Other Agencies (R.C.M.P.)	78	3	81	—
	890	715	1,605	2,621

\*Investigations cover incidents where an investigation was conducted but no court action resulted.

## Other Statutes

Criminal Code	4
Liquor Control	14
Vehicle and Highway Traffic	1
Public Lands Act	1

20

Total Reported Warnings Issued For Fish and Wildlife Violations — 600.

## ADMINISTRATION

The Wildlife Act was given assent on April 15th, 1970, and came into effect on July 1st, 1970. The coming into effect of The Wildlife Act necessitated a careful review of all regulations in effect pursuant to The Game Act. Therefore, a significant amount of time has been spent on updating and redrafting of regulations such as the Wildlife Sanctuaries, Bird Sanctuaries, and Wildlife Management Units Regulations, The Game Bird Farm Regulations, The Big Game Farm Regulations, The Game Hunting Regulations, and The General Game Regulations.

The Wildlife Act provided for significant change to the Wildlife Damage Fund operation including the requirement that ten percent of the monies received from the sale of Wildlife Certificates be set aside for use in the operation of a Wildlife Depredation Control Program; that is, lure crops. It also provided that payments paid out for claims received against the fund could not exceed the amount of money in the fund at the end of the calendar year.

- “Section 9. (1) The Lieutenant Governor in Council may by regulation require the purchaser of a licence or permit issued under this Act to purchase a Wildlife Certificate for the purpose of establishing a fund to operate a wildlife damage plan.
- (2) The fees paid under subsection (1) shall constitute a fund to be known as the “Wildlife Damage Fund”.
- (3) The Minister shall pay the fees collected into the Wildlife Damage Fund.
- (4) The Lieutenant Governor in Council may from time to time direct the Provincial Treasurer to advance to the Minister from the General Revenue Fund any amounts required for the purpose of meeting the obligations payable from the Wildlife Damage Fund as they become due, and any order made under this subsection may prescribe the terms and conditions upon which any amounts so advanced are to be repaid from the Wildlife Damage Fund to the Provincial Treasurer and the rate of interest payable on those amounts.
- (5) The Minister may make payments out of the Wildlife Damage Fund with respect to
- (a) claims arising against the Wildlife Damage Fund,
  - (b) the expense of operating the Wildlife Damage Fund,
  - (c) the operation of a wildlife depredation control program,  
and
  - (d) any other purposes provided for in the regulations.
- (6) From the amounts received from the sale of Wildlife Certificates in each calendar year there shall be set aside 10 percent thereof for the purposes of making payments under subsection (5), clause (c).



(7) The amount payable by the Minister under subsection (5), clauses (a), (b) and (d) shall not in any one year exceed in the aggregate

- (a) 90 per cent of the amount standing to the credit of the Wildlife Damage Fund on December 31 of the year in which the claims are received, and
- (b) the full amount received from inspection fees arising from claims against the Wildlife Damage Fund, less the amounts payable under subsection (4)."

Section 9 on coming into force on July 1st, 1970, was deemed to have been in force at all times after January 1st, 1970.

Of particular interest to the sportsmen of the province is Section 10 of the Wildlife Act.

"Section 10 (1) The Lieutenant Governor in Council may by regulation authorize the sale of habitat stamps for the purpose of establishing a fund to create and maintain fish and wildlife habitats and for such other purposes as the Lieutenant Governor in Council may designate.

(2) The fees paid under subsection (1) together with donations and bequests from time to time received by the Minister for that purpose shall constitute a fund to be known as the "Fish and Wildlife Habitat Fund".

(3) The Minister may make payments out of the Fish and Wildlife Habitat Fund with respect to

- (a) the creation of habitats for any species of fish or wildlife,
- (b) the maintenance of habitats, and
- (c) any other purposes provided for in the regulations.

The Fish and Wildlife Advisory Committee was requested by the Minister of Lands and Forests to hold a public meeting to receive submissions from interested groups and individuals regarding non-resident hunting and big game guiding and outfitting in Alberta. The committee was further assigned the responsibility of reviewing all of the material available to make recommendations to the Minister of Lands and Forests on the future administration of non-resident hunting and big game guiding and outfitting in Alberta. Public meetings were held August 21st and 22nd, 1970, in the Natural Resources Building in Edmonton. Ten written briefs were presented to the committee. A second meeting of the Fish and Wildlife Advisory Committee was held on October 15th, 1970, to discuss the material submitted and to make final recommendations to the Minister. At the time of this writing the recommendations of the committee are in the hands of the Minister of Lands and Forests. It is expected that a final decision will be made regarding the future of non-resident hunting and guiding in the province as soon as the recommendations have been reviewed by Caucus and the Executive Council. No changes will be made as a result of these recommendations for the 1971 hunting season. Any changes effected as a result of the recommendations will not be introduced prior to the 1972 season.

Several new licences were introduced in 1970, including the M-E-D Licence which sold for \$10.00 and entitled the holder to take one animal of the elk, moose, or deer species. The holder of the M-E-D Licence was not allowed to obtain any of the regular licences for hunting moose, elk, or deer. The Grizzly Bear Licence will be valid for the spring season. Henceforth the Grizzly Bear and the Black Bear Licences will be a fall-spring licence entitling the holder of the licence to fill the licence during the regular season, if there is one, either in the fall or the following spring. The Spring Bear Licence, as we have known it in the past, will not be issued in the future.

The Non-Resident Canadian and the Non-Resident Alien licences were discontinued and the following licences introduced:

#### NON-RESIDENT AND NON-RESIDENT ALIEN LICENCES

Moose .....	\$100.00
Elk .....	100.00
Trophy Mountain Sheep .....	200.00
Whitetail Deer .....	50.00
Mule Deer .....	50.00
Caribou .....	100.00
Grizzly Bear .....	200.00

The Non-Resident Alien Bird Game Licence was increased to \$50.00. We introduced a package licence and authorization known as the Non-Resident (Canadian) Special Big Game for \$75.00 and the Guide's Authorization for \$25.00. This allowed a Canadian not residing in Alberta to purchase a licence for \$75.00 specifying the animal of his choice and further allowing a relative or acquaintance of his choice, who was a resident of the province, for \$25.00 to be authorized to act as his guide. Only one Guide's Authorization would be issued to a resident in any given year. 1970 also saw the introduction of the Sportsmans Package for \$20.00. The Sportsmans Package included the Angling Licence, Wildlife Certificate, Bird Game Licence, M-E-D Licence, and a Sportsmans Badge. The Guide's Licences were increased from \$2.50 to \$25.00 for a Class "B" and \$50.00 for a Class "A".

Table 1

	GAME			
	COMPARISON OF THE NUMBER OF WILDLIFE CERTIFICATES & GAME LICENCES ISSUED			
	SEASON			
	1967-68	1968-69	1969-70	1970-71
Wildlife Certificates	124,028	119,978	117,408	128,708
<b>Bird Game Licences</b>				
Resident	68,703	69,833	62,969	78,325
Non-Resident (Canadian)	4,773	4,253	2,848	4,681
Non-Resident (Alien)	1,399	1,343	1,272	1,056
<b>Big Game Licences</b>				
Resident Black Bear	865	1,083	1,273	1,015
Resident Caribou	380	554	655	461
Resident Elk	—	26,181	27,449	25,192
Resident Grizzly Bear	—	349	204	201
Resident Moose	—	39,990	44,748	43,337
Resident Moose Elk or Deer (M-E-D)	—	—	—	3,804
Resident Moose — Zone One	—	3,696	4,868	6,241
Resident Mule Deer	38,835	38,125	41,348	29,317
Resident Sheep	1,285	1,305	1,061	989
Resident Whitetail Deer	32,394	37,713	43,254	37,146
Resident Big Game	51,578	—	—	—
Non-Resident & Non-Resident Alien Black Bear	36	58	54	130
Non-Resident & Non-Resident Alien Caribou	—	—	—	46
Non-Resident & Non-Resident Alien Elk	—	—	—	349
Non-Resident & Non-Resident Alien Grizzly Bear	—	—	—	10
Non-Resident & Non-Resident Alien Moose	—	—	—	277
Non-Resident & Non-Resident Alien Moose — Zone One	—	—	—	3,747
Non-Resident & Non-Resident Alien Mule Deer	—	—	—	83
Non-Resident & Non-Resident Alien Sheep	—	—	—	216
Non-Resident & Non-Resident Alien Whitetail Deer	190	256	309	21
Non-Resident (Alien)	429	644	647	—
Non-Resident & Non-Resident Special	9,968	4,343	3,321	—
Non-Resident (Canadian)	54	59	47	—

Table 2

## WILDLIFE CERTIFICATES &amp; GAME LICENCES

1970-71 SEASON

	NUMBER	FEE	TOTAL AMOUNT
Wildlife Certificates	128,708	\$ 3.00	\$386,124.00
Resident Bird Game Licences	78,325	2.50	195,812.50
Non-Res. Canadian Bird Game Licences	4,681	5.00	23,405.00
Non-Res. Alien Bird Game Licences	1,056	50.00	52,800.00
Resident Moose Licences	43,337	5.00	216,685.00
Resident Elk Licences	25,192	5.00	125,960.00
Resident Moose-Zone One Licences	6,241	5.00	31,205.00
Resident M-E-D (Moose, Elk or Deer) Licences	3,804	10.00	38,040.00
Resident Whitetail Deer Licences	37,146	3.00	111,438.00
Resident Mule Deer Licences	29,317	5.00	146,585.00
Resident Sheep Licences	989	10.00	9,890.00
Resident Caribou Licences	461	10.00	4,610.00
Resident Grizzly Bear Licences	201	10.00	2,010.00
Resident Black Bear Licences	1,015	5.00	5,075.00
Non-Res. & Non-Res. Alien Moose Licences	277	100.00	27,700.00
Non-Res. & Non-Res. Alien Elk Licences	349	100.00	34,900.00
Non-Res. & Non-Res. Alien Moose-Zone One Licences	3,747	50.00	187,350.00
Non-Res. & Non-Res. Alien Whitetail Deer Licences	21	50.00	1,050.00
Non-Res. & Non-Res. Alien Mule Deer Licences	83	50.00	4,150.00
Non-Res. & Non-Res. Alien Sheep Licences	216	200.00	43,200.00
Non-Res. & Non-Res. Alien Caribou Licences	46	100.00	4,600.00
Non-Res. & Non-Res. Alien Grizzly Bear Licences	10	200.00	2,000.00
Non-Res. & Non-Res. Alien Black Bear-Zone One Licences	104	25.00	2,600.00
Non-Res. & Non-Res. Alien Black Bear Licences	26	25.00	650.00
Non-Res. (Canadian) Special Big Game Licences	3	75.00	225.00
Special Guiding Authorities	3	25.00	75.00
Duplicate Licences	364	2.00	728.00
Antelope Licences	798	10.00	7,980.00
Ya-Ha-Tinda Elk Licences S14-S18	419	5.00	2,095.00
Non-Trophy Sheep Licences	314	5.00	1,570.00
Wainwright Deer Licences	420	5.00	2,100.00
Archery Licences	209	3.00	627.00
Guides Licences (Class A)	412	50.00	20,600.00
Guides Licences (Class B)	676	25.00	16,900.00
Game Bird Farm Licences (Class A)	8	25.00	200.00
Game Bird Farm Licences (Class B)	12	10.00	120.00
Game Bird Farm Licences (Class C)	16	5.00	80.00
Resident Trappers Licences	3,020	3.00	9,060.00

	NUMBER	FEE	TOTAL AMOUNT
Taxidermist Licences	69	\$ 5.00	\$ 345.00
Dog Trainers Licences	15	various	171.00
Permits to Collect	75	free	
Sportsmans Package	46	costs included in licences	
Game Farm Licences (Big Game)	3	100.00	300.00
Pheasant Shooting Ground Licences	3	100.00	300.00
Restricted Big Game Farm Licence	1	50.00	50.00

Table 3

ALBERTA FUR PRODUCTION SEASON 1970-71  
(WILD FUR)

	TOTAL NUMBER OF PELTS	AVERAGE VALUE OF PELTS	TOTAL VALUE OF PELTS
BADGER	590	\$ 7.11	\$ 4,194.90
BEAR	417	24.16	10,074.72
BEAVER	47,287	11.58	547,583.46
COYOTE	12,376	9.11	112,745.36
ERMINE	14,283	.63	8,998.29
FISHER	571	20.86	11,911.06
FOX, BLUE	1	6.50	6.50
FOX, CROSS	207	16.50	3,415.50
FOX, RED	501	10.42	5,220.42
FOX, SILVER	10	23.54	235.40
FOX, WHITE	33	17.36	572.88
LYNX	15,397	23.03	354,592.91
MARTEN	1,009	10.56	10,655.04
MINK	7,495	9.33	69,928.35
MUSKRAT	185,996	1.27	236,214.92
OTTER	156	26.21	4,088.76
RABBITS, JACK	1,942	.16	310.72
SKUNK	4	.36	1.44
SQUIRREL	237,542	.31	73,638.02
WOLF, TIMBER	177	43.74	7,741.98
WOLVERINE	23	61.17	1,406.91
	526,017		\$1,463,547.54



Table 4

## SALE OF FURS

Amount realized from the sale of furs during the period 1970-1971 season	—	—	\$ 444.63
Number of Registered Trapslines	2,019		
Number of Trapline Renewals & Partnerships 1970-71 season	2,440	@10.00	\$24,440.00

## FUR DEALERS LICENCES, ETC.

Kind	Number	Amount
Resident Fur Dealer Licences to carry on business in a city and elsewhere than in a city	107	\$ 1,070.00
Non-Resident Fur Dealers Licence to carry on business in the Province	1	100.00
Resident Travelling Fur Purchasing Agents' Licence	11	1,100.00
Furriers Licences	8	80.00
Tanners Licences	8	80.00

## FUR TAX REVENUE

Amount Collected	\$74,259.40
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Table 5

## TOTAL REVENUE &amp; EXPENDITURE

	1967-68	1968-69	1969-70	1970-71
Revenue Total	\$1,416,069.37	\$1,707,574.31	\$1,680,343.37	\$1,857,836.14
Expenditure Total	\$1,541,022.76	\$1,642,778.52	\$1,885,496.97	\$1,995,177.05

Table 6

## WILDLIFE DAMAGE FUND

	1968-69	1969-70	1970-71
Opening Balance	\$ 92,108.28	\$ 119,356.85	\$289,271.84
Revenue Total	459,661.50	283,084.26	398,326.60
Loan	—	600,000.00	—
	\$551,769.78	\$1,002,441.11	\$687,598.44
Expenditure	432,412.93	713,169.27	645,199.42
Balance of Fund	\$119,356.85	\$ 289,271.84	\$ 42,399.02***
Transferred to Wildlife Depredation Trust			\$ 41,104.54
Funds Remaining			\$ 1,294.48

\*\*\*Does not take into consideration outstanding loan of \$600,000.00.

Table 7

## CROP CLAIMS

	1967-68	1968-69	1969-70	1970-71
Claims	99	821	1,485	1,431
Acreage Damage	3,390	39,408	65,627	52,662
Settlement & Costs	\$43,143.22	\$410,444.41	\$672,510.78	\$589,346.52

Table 8

## LIVESTOCK CLAIMS

	1967-68	1968-69	1969-70	1970-71
Loss or injury to Livestock Caused by Hunters				
Claims		42	68	45
Veterinary Claims		4	18	26
Costs	\$10,217.81	\$ 7,968.52	\$ 12,931.34	\$ 9,578.18

Table 9

## MISC. EXPENSES

	1968-69	1969-70	1970-71
Consulting Services	\$ 14,000.00		\$ 8,606.81
Contracts & Other Services		\$ 27,727.15	\$ 6.83
Lure Crop Program 1970			\$ 37,661.08

## WILDLIFE DEPREDAATION TRUST ACCOUNT

January 1 — March 31 1971

Receipts from Wildlife Damage Fund	\$41,104.54
Department of Fisheries & Forestry	4,000.00
	\$45,104.54
Expenditure	\$11,443.56
Balance of Fund March 31/71	\$33,660.98

## LICENCE SALES

	FISH LICENCES		GAME LICENCES		Miscellaneous Revenue	Total Revenue	Total Expenditure
	Number Sold	Revenue	Number Sold	Revenue			
1956/57	110,883	\$129,098.70	105,084	\$402,108.95	\$108,714.37	\$639,922.02	\$450,068.75
57/58	118,323	147,434.70	120,968	457,969.92	110,091.04	715,495.66	522,483.82
58/59	129,167	156,487.20	148,057	523,435.05	101,335.20	781,257.45	568,302.88
59/60	135,243	162,681.70	140,914	516,806.78	116,848.32	796,336.80	687,531.01
60/61	146,645	167,932.05	172,631	631,920.81	132,020.25	931,873.11	806,236.43
61/62	125,280	247,821.45	155,174	585,801.15	117,564.12	951,186.72	808,278.26**
62/63	126,764	247,096.90	166,036	648,603.60	115,794.37	1,011,494.87	879,594.41**
63/64	134,462	262,348.60	181,521	658,141.09	110,841.92	1,031,331.61	912,420.21**
64/65	129,073	248,709.65	184,076	674,002.14	118,376.01	1,041,087.80	1,016,510.31**
65/66	127,194	246,739.95	189,320	685,188.68	103,392.52	1,035,321.15	1,117,719.07**
66/67	137,687	265,139.50	190,824	733,964.25	92,030.68	1,091,134.43	1,330,052.83
67/68	141,676	273,456.60	218,865	1,042,831.40	99,781.37	1,416,069.37	1,556,926.07**
68/69	143,062	433,982.90	241,879	1,164,015.41	109,576.00	1,707,574.31	1,646,200.51**
69/70	155,372	464,622.30	245,804	1,122,907.97	92,813.10	1,680,343.37	1,889,176.34**
70/71	151,002	457,379.60	246,030	1,288,816.40	111,640.14*	1,857,836.14	2,000,895.56**

\* See Miscellaneous Revenue Page

\*\*1961-62 — 1970-71 includes Cost Sharing Programs and Predator Control

## MISCELLANEOUS REVENUE

Year	Fisheries Miscellaneous	Fisheries Royalty	Fur Tax	Game Branch Miscellaneous	Total
	\$	\$	\$	\$	\$
1952/53	138.74	17,544.40	87,366.64	1,725.57	106,775.35
53/54	128.72	23,860.61	90,982.58	1,160.29	116,132.20
54/55	415.31	27,181.00	92,150.68	562.86	120,309.85
55/56	782.59	23,341.48	124,907.31	2,157.23	151,188.61
56/57	423.30	25,462.86	81,796.11	1,032.10	108,714.37
57/58	1,034.21	22,898.15	84,973.05	1,185.63	110,091.04
58/59	1,719.03	24,757.58	72,412.38	2,446.21	101,335.20
59/60	2,087.16	34,286.42	78,307.77	2,166.97	116,848.32
60/61	4,337.94	46,890.16	78,437.40	2,354.75	132,020.25
61/62	809.59	28,836.75	84,449.87	3,467.91	117,564.12
62/63	4,125.74	15,496.11	90,822.07	5,350.45	115,794.37
63/64	3,338.97	14,794.42	87,731.71	4,976.82	110,841.92
64/65	259.77	9,054.69	104,299.36	4,762.19	118,376.01
65/66	888.10	14,165.32	85,208.64	3,130.46	103,392.52
66/67	409.92	15,232.36	72,730.28	3,658.12	92,030.68
67/68	224.78	14,439.74	78,798.35	6,318.50	99,781.37
68/69	1,700.68	13,698.29	90,264.30	3,912.73	109,576.00
69/70	810.97	12,533.15	76,872.32	2,596.66	92,813.10
70/71	533.21	22,352.79	86,350.53	2,403.61	111,640.14

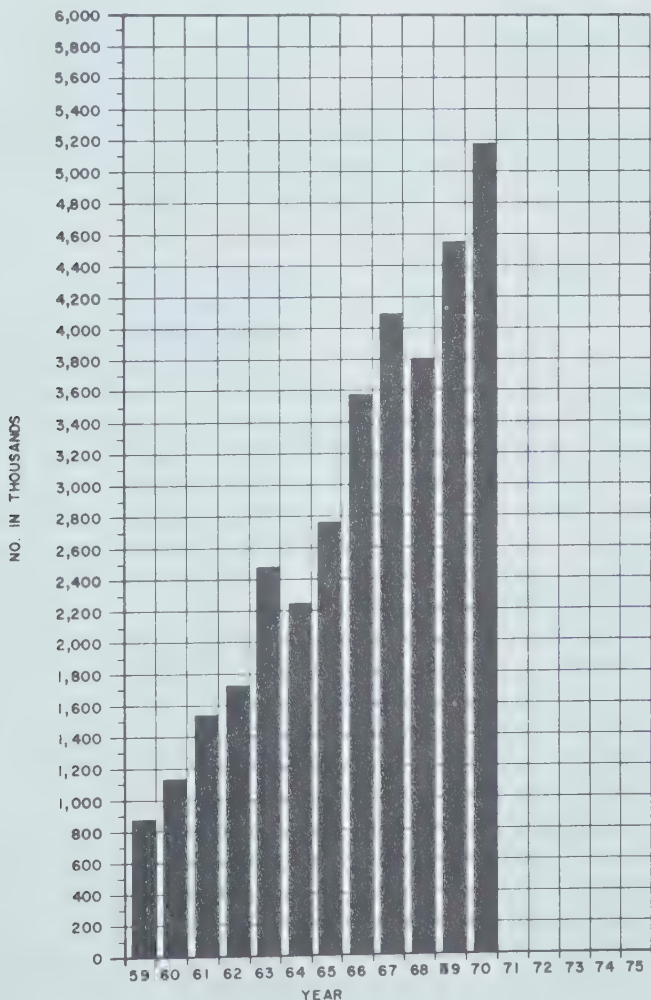
## PROVINCIAL PARKS DIVISION

## REPORT OF THE DIRECTOR

*T. A. DRINKWATER*

The public acceptance of Alberta's Provincial Parks as outlets for passive and active recreational pursuits is indicated in the attainment of a further milestone in park attendance. In the fiscal year 1966-67, park attendance first reached across the three million day-use patronage figure and this year 1970-71 has seen the patronage exceed the five million figure.

In the twenty-nine parks where camping fees are charged, the records indicate substantial increases in overnight attendance for tents and trailers. During this fiscal year accommodation was provided for 40,683 tents (an increase of 33% over the previous year) and 97,992 trailers (an increase of 24%). It is interesting to note the increased popularity of trailers in use by the touring and camping recreationist. Trailers now represent 59% of the total types of camping facility being used by the public in the Provincial Parks.



TOTAL ATTENDANCE FOR ALL PROVINCIAL PARKS

The Parks Division is being hard pressed to meet the growing public demand for more parks and increased facilities while maintaining and improving the already established parks. To help meet this need during the year under review, the following new parks were established:

Hasse Lake	170.40 acres — south of Stoney Plain
Dry Island Buffalo Jump	1,299.70 acres — east of Huxley
Police Outpost	361.8 acres — south of Cardston

Two established parks were enlarged by the addition of the following acreages:

Pigeon Lake	154.00 acres
Tillebrook Trans-Canada Campsite	75.80 acres

In the continuing program to preserve representative ecological areas within the province, the Parks Division during the year established two additional Natural areas:

Brown-Lowery	640.00 acres — Millarville
Red Rock Coulee	801.00 acres — Bow Island

To assist in meeting the continuous needs of park maintenance and to provide additional park patron facilities, the following building projects were completed by the Parks Mobile Work Crews:

#### WORKSHOPS

Garner Lake	1 New 24' x 30' Temporary Shop Storage 24' x 30' Temporary Shop Storage 24' x 30' Temporary Storage 30' x 60'
Jarvis Bay	1 New

#### WORKSHOP AND STORAGE COMBINATION

Cypress Hills	1 New
Tillebrook	1 New

#### CHECKING STATION

Chain Lakes	1 New
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#### SHOWER BUILDINGS

Jarvis Bay	1 New
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#### COMFORT STATIONS

Jarvis Bay	2 New
Miquelon Lake	2 New

#### DUMPING STATION

Crimson Lake	1 New
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## CREW QUARTERS

Aspen Beach	Outside Completion
Bow Valley	Outside Completion
Dinosaur	Outside and Inside Completion
Miquelon	Outside Completion
Wabamun	Outside Completion
Winagami	Outside and Inside Completion

## PUMP HOUSES

Dinosaur	1 New
Little Bow	1 New

## WORKSHOP CONSTRUCTION

800 Large Picnic Tables  
 170 Small Picnic Tables  
 111 Park Benches  
 122 Single Sanitary Units  
 2 Radio Shacks

Major Capital Works programs were undertaken on behalf of Provincial Parks by the Department of Public Works or completed by Provincial Parks with Department of Public Works funds under continuing phase development at:

Jarvis Bay	Wabamun Lake
Miquelon Lake	Tillebrook
Pigeon Lake	

The Park Planning Section undertook the following projects during the year:

## ENGINEERING PROGRAM

### Waterwork Extensions —

Design:	Entrance
	Little Bow
	Long Lake
	Park Lake
	Pembina River

### Design and Installation:

Beauvais Lake  
 Wabamun Lake  
 Sir Winston Churchill

### Washhouses—

Design:	Jarvis Bay
	Wabamun Lake

Waterworks and Sewage System —

Design and Installation:

- Miquelon Lake (Dept. of Public Works)
- Pigeon Lake (Dept. of Public Works)
- Winagami Lake

Design and Installation: (water treatment plant renovations)

Moonshine Lake

Design: (for wading pool)

Big Knife

Design: (for auxiliary water supply pumping station)

Cypress Hills

DESIGN SECTION

- |                 |  |
|-----------------|--|
| Bow Valley      | — Site analysis of proposed trailer camp-area, and development of conceptual design.                                   |
| Bragg Creek     | — Site analysis and selection of site for new warden's residence.  |
| Chain Lakes     | — Selection of site for new warden's residence; layout of campground design.   |
| Cross Lake      | — Site analysis and selection of site for new warden's residence.  |
| Cypress Hills   | — Design consultation on proposed business complex in Elkwater Townsite.   |
| Garner Lake     | — Site analysis and re-siting of concession stand.   |
| Gregoire Lake   | — Layout of development design for entire park; re-design of parking lots.   |
| Hasse Lake      | — Site analysis and conceptual studies.  |
| Kinbrook Island | — Landscape design for warden's residence.   |
| Long Lake       | — Site analysis for proposed campground extension; site analysis and selection of site of relocation of one residence. |

Miquelon Lake	— Site analysis of lagoon area, minor design revisions for campground.
Moose Lake	— Site analysis, conceptual designs, development design, layout of entire development and minor construction supervision.
Pigeon Lake	— Analysis of some design aspects
Police Outpost	— Site analysis, conceptual design, development design, layout and staking of entire development and some construction supervision.
Rochon Sands	— Site analysis and selection of site for new warden's residence.
Tillebrook	— Landscape design for warden's residence and for eastern portion of park development; layout and staking same.

#### STUDIES AND REPORTS COMPLETED WITH MEMBERS OF PLANNING TEAM:

"Recommendations on Group Camp Policy in Cypress Hills Provincial Park", (November, 1970).

"Recommendations concerning establishment of a Provincial Park at Cold Lake", (December, 1970).

Two-hour lecture on Site Planning was delivered to Parks Officers, Hinton, Alberta, March 26, 1971.

#### SURVEY AND DRAFTING SECTION

##### Location Survey —

The location survey was carried out on all improvements in two newly developed parks at:

Chain Lakes  
Sir Winston Churchill

and locations of additional developments were completed in the following parks:

Aspen Beach	Moonshine Lake
Big Knife	Pembina River
Bow Valley	Rochon Sands
Dinosaur	The Vermilion
Entrance	Wabamun Lake
Long Lake	Williamson
Miquelon Lake	

**Drafting — Topographical Maps**

New mapping, at the scale of 1" = 200', for the following parks was completed:

Beauvais Lake	Jarvis Bay
Big Hill Springs	Little Bow
Dillberry Lake	Miquelon Lake
Dinosaur	Sir Winston Churchill
Garner Lake	

Up-dating of current maps of parks was completed for the following parks:

Aspen Beach	Moonshine Lake
Big Knife	Pembina River
Bow Valley	Rochon Sands
Chain Lakes	Taber
Cypress Hills	The Vermilion
Entrance	Wabamun Lake
Garner Lake	Williamson
Long Lake	Writing-On-Stone

**Architectural and Miscellaneous Drafting —**

Washhouse (Wabamun)  
 Changehouse (Moose Lake)  
 Group Camping Cook Shelter  
 Camping Stoves  
 Water Pump Houses  
 Water Storage Tower  
 Weed Cutter  
 Adjustable Pier  
 Triple Toilet Unit  
 Single Toilet Unit  
 Water Distribution Plans  
 Landscaping Plans  
 Site Plans

The Recreation Sector, Canada Land Inventory, under the direction of the Park Planning Branch, continued to operate during the fiscal year. The Recreation Facility Inventory was completed and forwarded to Ottawa for coding and keypunching with the complete inventory to be stored on computer tape in Alberta as well as being mapped at a scale of 1:250,000. The Recreation Capability Inventory approached completion with 6 of 36 1:250,000 map sheet blocks remaining to be forwarded to Ottawa and 23 descriptive narrative translations to be made.

## ALBERTA PARKS FACILITIES CHART

1971

FEE FOR OVERNIGHT CAMPING \$1.50

CAMPING →

FEE FOR OVERNIGHT CAMPING \$1.50													
NAME OF PARK	AREA IN ACRES	CAMPING										NEAREST CITY OF TOWN	
		SCENIC	HISTORICAL	RECREATION	PICNICKING	CONFECTIONERY	SWIMMING	BOAT LAUNCHING	BOAT RENTAL	FISHING	TENTS		TRAILERS
Aspen Beach	232		x	x	x	x	x	x	x	x	x		Lacombe
Beauvais Lake	1,292	x	x	x	x	x	x	x	x	x	x		Pincher Creek
Big Hill Springs	64	x	x	x						x	x		Cochrane
Big Knife	731		x	x	x					x	x		Forestburg
Bow Valley	2,379	x	x	x						x	x	x	Seebe
Bragg Creek	302		x	x						x	x		Calgary
Chain Lakes	641		x							x	x	x	Nanton
Crimson Lake	7,873		x	x	x	x	x			x	x		Rocky Mtn. House
Cross Lake	4,126		x	x	x	x	x	x	x	x	x		Fawcett
Cypress Hills	43,300	x	x	x	x	x	x	x	x	x	x	x	Medicine Hat
Dillberry Lake	222		x	x	x	x	x			x	x		Provost
Dinosaur	22,772	x	x							x	x		Patricia
Dry Island Buffalo Jump	132	x	x		Underdeveloped								Huxley
Entrance	6,613	x		x	x	x	x			x	x		Hinton
Garner Lake	162		x	x	x	x	x	x	x	x	x		Spedden
Gooseberry Lake	123		x	x	x	x	x			x	x		Consort
Gregoire Lake	1,695		x		Under Development								Ft. McMurray
Hasse Lake	170		x		Under Development								Stony Plain
Hommy	16		x		Underdeveloped								Beaverlodge
Jarvis Bay	216		x	x						x	x		Sylvan Lake
Kinbrook Island	95		x	x	x	x			x	x	x		Brooks
Lac Cardinal	300		x	x		x	x			x	x		Grimshaw
Lesser Slave Lake	17,852	x		x	x	x	x	x	x	x	x		Slave Lake
Little Bow	272		x	x	x	x	x	x	x	x	x		Champion
Little Fish Lake	151		x	x		x	x			x	x		Drumheller
Long Lake	1,726		x	x	x	x	x	x	x	x	x		Newbrook
Ma-Me-O Beach	4		x	x									Wetaskiwin
Miquelon Lake	1,044		x	x	x	x	x			x	x	x	Camrose
Moonshine Lake	1,934		x	x	x	x				x	x		Spirit River
Moose Lake	1,719		x		Under Development								Bonnyville
O'Brien	166		x	x						x	x		Grande Prairie
Park Lake	188		x	x	x	x	x			x	x		Lethbridge
Pembina River	409		x	x						x	x	x	Entwistle
Pigeon Lake	467		x	x	x	x	x	x	x	x	x		Wetaskiwin
Police Outpost	362		x		Under Development								Cardston
Red Lodge	159		x	x	x					x	x		Bowden
Rochon Sands	158		x	x	x	x	x	x	x	x	x		Erskine
Saskatoon Island	251		x	x	x	x	x			x	x		Grande Prairie
Sir Winston Churchill	591	x		x	x	x	x			x	x	x	Lac La Biche
Taber	127		x	x	x					x	x		Taber
The Vermilion	1,929		x	x	x	x	x			x	x	x	Vermilion
Thunder Lake	514		x	x	x	x	x			x	x	x	Barrhead
Tillebrook	253			x						x	x	x	Brooks
Wabamun Lake	692		x	x	x	x	x			x	x	x	Wabamun
Williamson	45		x	x	x	x	x			x	x		Valleyview
Willow Creek	76		x	x						x	x		Stavely
Winagami Lake	2,992		x	x	x	x	x			x	x	x	McLennan
Woolford	87		x	x						x	x		Woolford
Writing-on-Stone	1,059	x	x	x	x					x	x		Milk River





## ALBERTA HISTORICAL SITES

1971

NAME OF SITE	AREA IN ACRES	NEAREST CITY OR TOWN
1. Athabasca Landing	3.02	Athabasca
2. Buckingham House	5.79	Elk Point
3. Bugnet Plantation	13.00	Gunn
4. Coronation Bdy. Marker	0.25	Coronation
5. Early Man Site	1.00	Ft. MacLeod
6. Fort De L'Isle	107.20	Myrnam
7. Fort George	1.00	Elk Point
8. Fort Vermilion	2.00	Marwayne
9. Fort Victoria	0.80	Smoky Lake
10. Fort White Earth	5.48	Smoky Lake
11. Frog Lake Massacre	3.84	Elk Point
12. Grizzly Bear Telegraph Station	8.76	Vermilion
13. Hay Lakes Telegraph Station	0.89	Hay Lakes
14. Head-Smashed-In Buffalo Jump	5.23	Ft. MacLeod
15. Indian Stone Pile	3.75	Trochu
16. Massacre Butte	1.00	Lundbreck
17. McLeod Fort	0.66	Peace River
18. Old Women's Buffalo Jump	8.16	Cayley
19. Rev. George McDougall	0.46	Calgary
20. Ribstones	2.00	Viking
21. Rocky Mountain House Fort	2.75	Rocky Mtn. House
22. Shaw Woollen Mill	0.25	Calgary
23. Standoff	0.89	Standoff
24. Stephansson	2.00	Markerville
25. St. Joseph's Industrial School	0.36	Okotoks
26. Twelve Foot Davis	2.10	Peace River

## STATEMENT OF REVENUE AND EXPENDITURE \* PROVINCIAL PARKS

YEAR ENDING MARCH 31, 1971

	Revenue	Income	Expenditure Capital
General Administration	\$	\$ 209,979.03	\$ -
Mobile Equipment	-	275,946.76	-
Salaries	-	626,762.08	-
General Equipment	-	5,233.55	-
Workshop	-	187,841.15	-
Warehouse	-	160,189.82	-
Electric Supplies	-	30,337.59	-
Plumbing Supplies	-	35,743.87	-
Municipal Aid	-	-	-
Historic Sites	-	874.99	-
Contingency Fund	-	16,202.36	-
Communications	-	55,774.67	-
Natural Areas	-	-	-
Miscellaneous Equipment	-	24,672.25	-
Equipment Repair	-	84,159.43	-
Aspen Beach	27,626.73	41,622.93	-
Beauvais Lake	2,854.47	19,886.21	-
Big Hill Springs	-	7,441.00	-
Big Knife	18.38	11,941.59	12,458.15
Bow Valley	8,171.58	22,863.62	3,100.48
Bow Valley Tourist Camp	-	14,376.35	-
Bragg Creek	-	10,350.45	198.80
Chain Lakes	-	45,856.62	34.71
Crimson Lake	10,115.50	36,171.23	-
Cross Lake	74.12	13,326.96	-
Cypress Hills	39,343.24	171,781.93	23,828.81
Dillberry Lake	4,290.19	12,475.83	-
Dinosaur	2,120.00	25,178.21	-
Dry Island Buffalo Jump	11.48	-	-
Entrance	-	16,420.99	5,548.97
Garner Lake	4,504.63	20,204.15	-
Gooseberry Lake	271.50	15,128.61	-
Gregoire Lake	-	-	-
Hasse Lake Park	-	6,810.43	-
Jarvis Bay	-	23.95	-
Kinbrook Island	5,198.35	22,434.43	-
Lac Cardinal	1.00	7,404.69	-
Little Bow	7,087.63	24,963.87	1,646.70
Little Fish Lake	-	4,427.26	-
Long Lake	11,465.29	31,252.31	13,853.84
Lesser Slave Lake	494.94	8,548.81	-
Ma-Me-O Beach	-	3,663.25	-
Miquelon Lake	11,632.82	38,515.72	-
Moonshine Lake	2,196.50	8,179.73	-
O'Brien	-	5,091.35	-
Park Lake	2,625.50	20,553.05	3,582.25
Pembina River	4,345.56	15,825.61	2,586.64
Pigeon Lake Park	60.00	-	-
Police Outpost Park	22.00	5,293.95	-
Red Lodge	6,605.00	11,873.73	-
Rochon Sands	5,683.00	13,717.16	-
Saskatoon Island	2,161.50	9,056.02	-
Taber	42.00	15,323.05	3,336.02
Vermilion	3,186.91	15,060.73	-
Thunder Lake	3,979.00	17,173.08	-
Tillebrook	779.45	8,108.91	-

	Revenue	Income	Expenditure Capital
Wabamun Lake	\$ 10,766.49	\$ 51,403.41	\$ —
Williamson	7,491.50	7,453.40	554.41
Willow Creek	7.34	10,558.68	—
Winagami Lake	1,932.50	13,341.77	—
Winston Churchill Park	577.50	16,235.29	9,794.06
Woolford	—	11,378.65	653.80
Writing-on-Stone	493.00	13,660.90	—
	\$188,236.60	\$2,615,978.42	\$81,177.64

## TECHNICAL DIVISION

REPORT OF THE DIRECTOR  
*J.R. HARROWER*

Revenue From Public Sources	\$ 96,983.94
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Map Sales	\$37,285.73
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Air Photo Sales	\$26,190.76
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Atlas Sales	\$33,507.45
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Revenue From Other Government Departments	\$ 74,643.22
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Map Sales	\$ 330.00
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Air Photo Sales	\$73,673.22
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Atlas Sales	\$ 640.00
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Total Revenue	\$171,627.16
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## NOTIFICATIONS ISSUED DURING FISCAL YEAR

April 1st, 1970 to March 31, 1971

Classification	Notifications	Acres
Homesteads	134	32,298.54
Sales	380	47,180.44
Notification to Minister of Lands and Forests	26	87,031.14
Exchange of Land	12	1,799.43
Transfer of Administration & Control	13	1,220.46
Release of Habendum Clause	—	—
Special Grants and Free Grants	5	26.05
Homestead Sales	142	34,036.70
Homestead Lease Loan Sale	17	4,300.18
TOTAL	729	207,892.94

Number without acreage included above

Sales	—	50
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Special Grants & Free Grants	—	1
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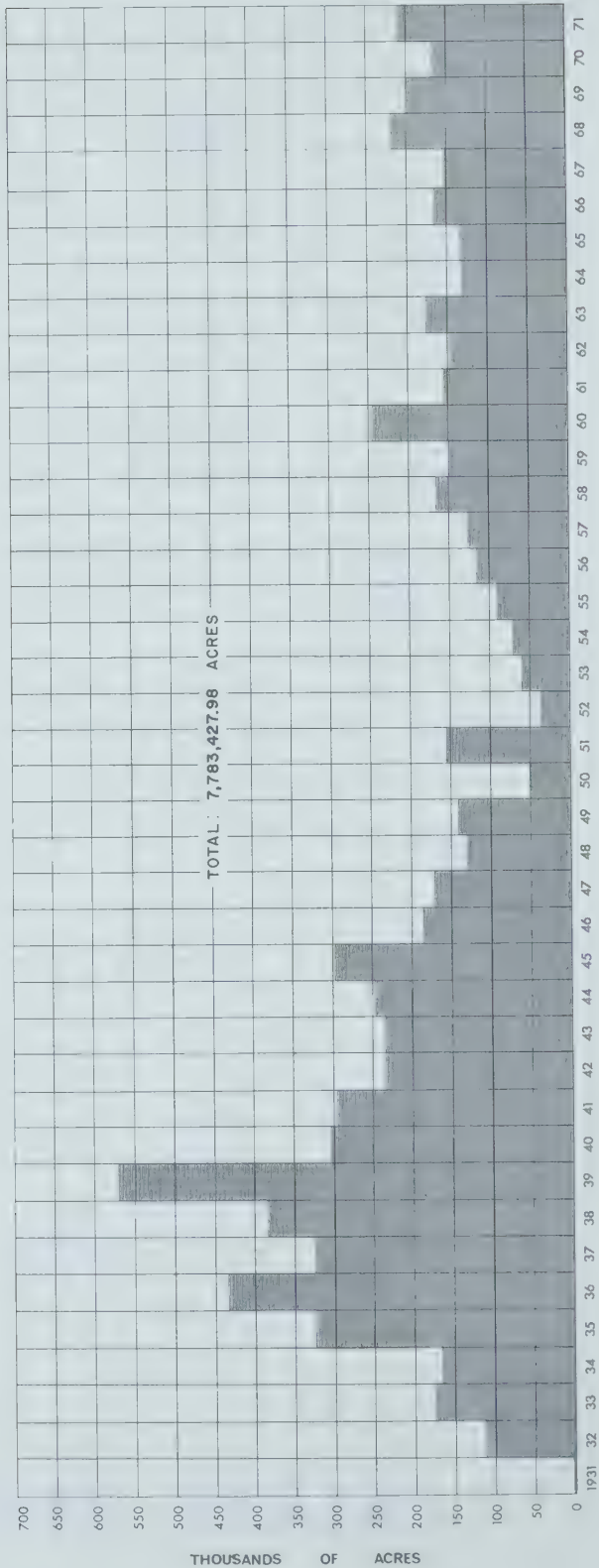
Exchange of Land	—	1
------------------	---	---

The number of plans checked and filed in the division decreased slightly from the previous fiscal year and a summary of the various plans filed in the division are as follows:

Roads	—	193
General Surveys	—	65
Powerlines	—	90
Railways	—	10
Irrigation	—	14
Access Roads	—	360
Pipelines	-	323
Wellsites	—	770
Subdivisions	—	47
		1,872

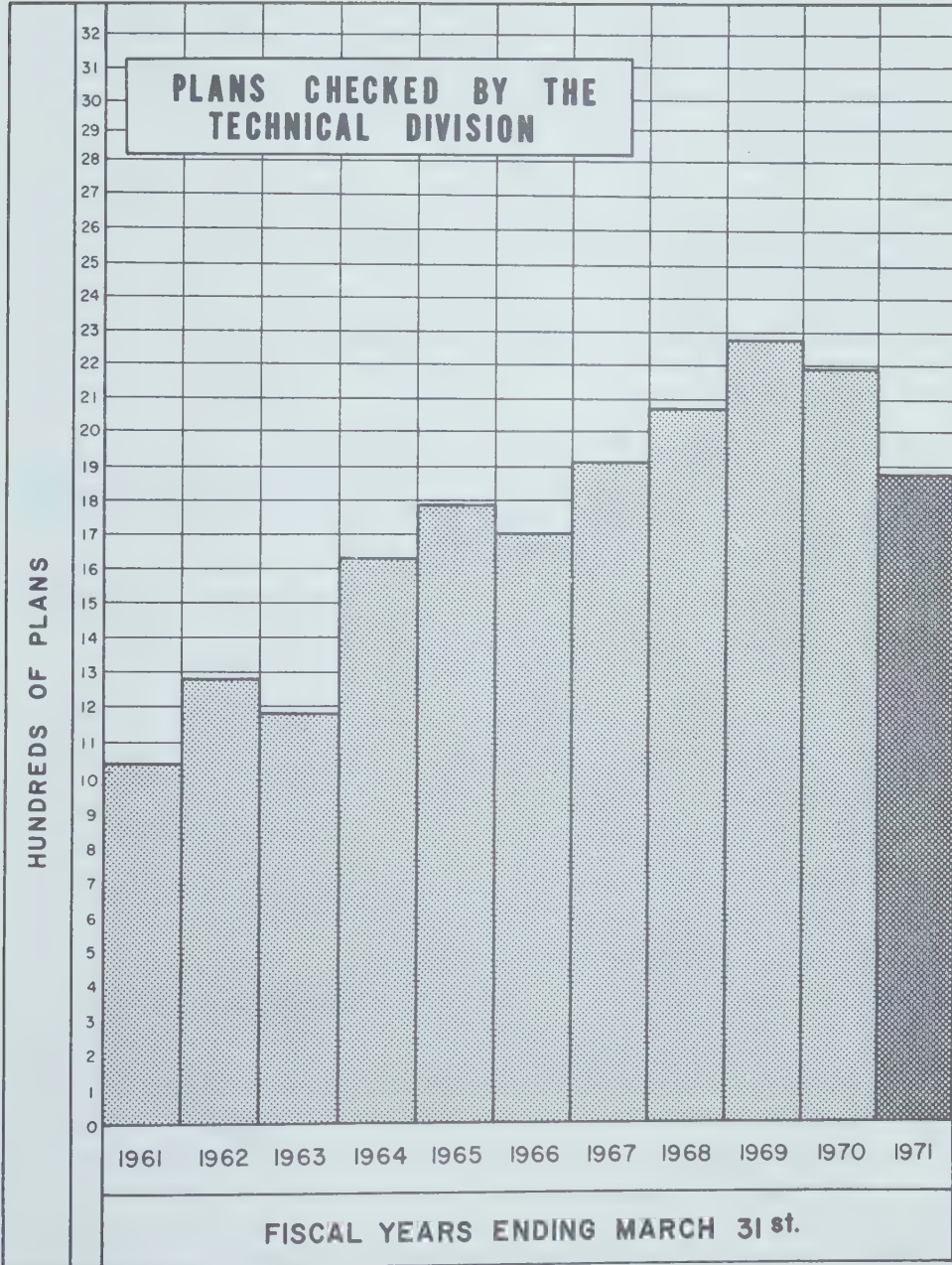
ACREAGE      PATENTED

YEAR by YEAR SINCE TRANSFER OF  
NATURAL RESOURCES TO THE PROVINCE



FISCAL YEARS ENDING MARCH 31st.





## TITLES ACQUIRED IN THE NAME OF THE CROWN

The division acquired title in the name of the Crown to the following:

10 quarter sections or portions thereof were acquired through exchanges of land.

277 quarter sections or portions thereof were acquired through purchases by the Department of Agriculture under the ARDA Program for inclusion in grazing reserves and community pastures, for agricultural redevelopment, for watershed, wildlife and forestry conservation and for recreational purposes.

4 quarter sections were acquired through purchases for Provincial Park Purposes.

Part of 1 quarter section was acquired through purchase by the Alberta Forest Service for a forestry tower site.

Three former school sites were acquired through transfer from school districts and counties and parts of 2 quarter sections were acquired from the Department of Agriculture for administrative purposes.

In addition to the above, titles to 510 quarter sections were received here for lands which were brought under the Land Titles Act by this office to facilitate registration of mortgages against easements, pipe line agreements, board orders, etc. by industrial companies and also to facilitate the registration of subdivision plans.

## MISCELLANEOUS SURVEYS

The following land surveys were performed:

1. The boundaries of four provincial parks.
2. Robb Townsite.
3. Prince's Island — Calgary.
4. Bow River — Hector's Steel Mill.
5. Calling Lake Subdivision.
6. Subdivision in section 1-85-11-W6th meridian.
7. Road survey in township 63-26-W 4th meridian.
8. Section line east boundary in section 28-70-5-W6th meridian.

Amendments were made to the surveys of:

Elkwater Townsite,  
Beauvais Lake Provincial Park,  
Capt. Eyre Lake Subdivision.

Control level surveys for mapping were performed at the following provincial parks:

Woolford,  
Willow Creek,  
Tillebrook,

Bragg Creek,  
Moonshine Lake,  
Taber,  
Park Lake and  
Big Hill Springs.

## AERIAL SURVEYS SECTION

### AERIAL PHOTOGRAPHY

A total of 235 individual vertical aerial photographic projects were completed. This represented 12,083 exposures and covered 11,729 line miles. Department aircraft were utilized for 172.3 hours and leased aircraft for 176.5 hours giving a grand total of 348.8 hours.

### GROUND PHOTOGRAPHY

Seven projects were completed with a total of 73 exposures.

### TOPOGRAPHIC MAPPING

Thirty-six individual topographic projects were completed on the stereo plotting equipment involving 860,690 acres.

Thirty-five projects are in hand and will cover approximately 118,180 acres.

### MOSAIC CONSTRUCTION

Fifty individual projects were completed covering 23,085 square miles.

### PHOTOGRAPHIC SECTION

The following is a summary of the total production of the fiscal year:

	1969-70	1970-71
Contact prints printed in lab	97,638	93,057
Rectified prints	139	4,625
Enlargements	3,233	4,972
Kelsh diapositives	1,759	1,345
Multiplex diapositives	31	—
K 20 film processed	3	7
Other films processed	60	135

### MAPPING SECTION

A continuation of the many mapping services provided by this section was undertaken. A substantial increase in the total number of jobs handled under supplementary services were completed and a higher labor involvement for Land Use Assignment Mapping and detailed mapping for timber cruising was evident. Staff vacancy showed a moderate decline over the previous year.

The accompanying pages illustrate diagrammatically the extent of the services provided by this section to the department.

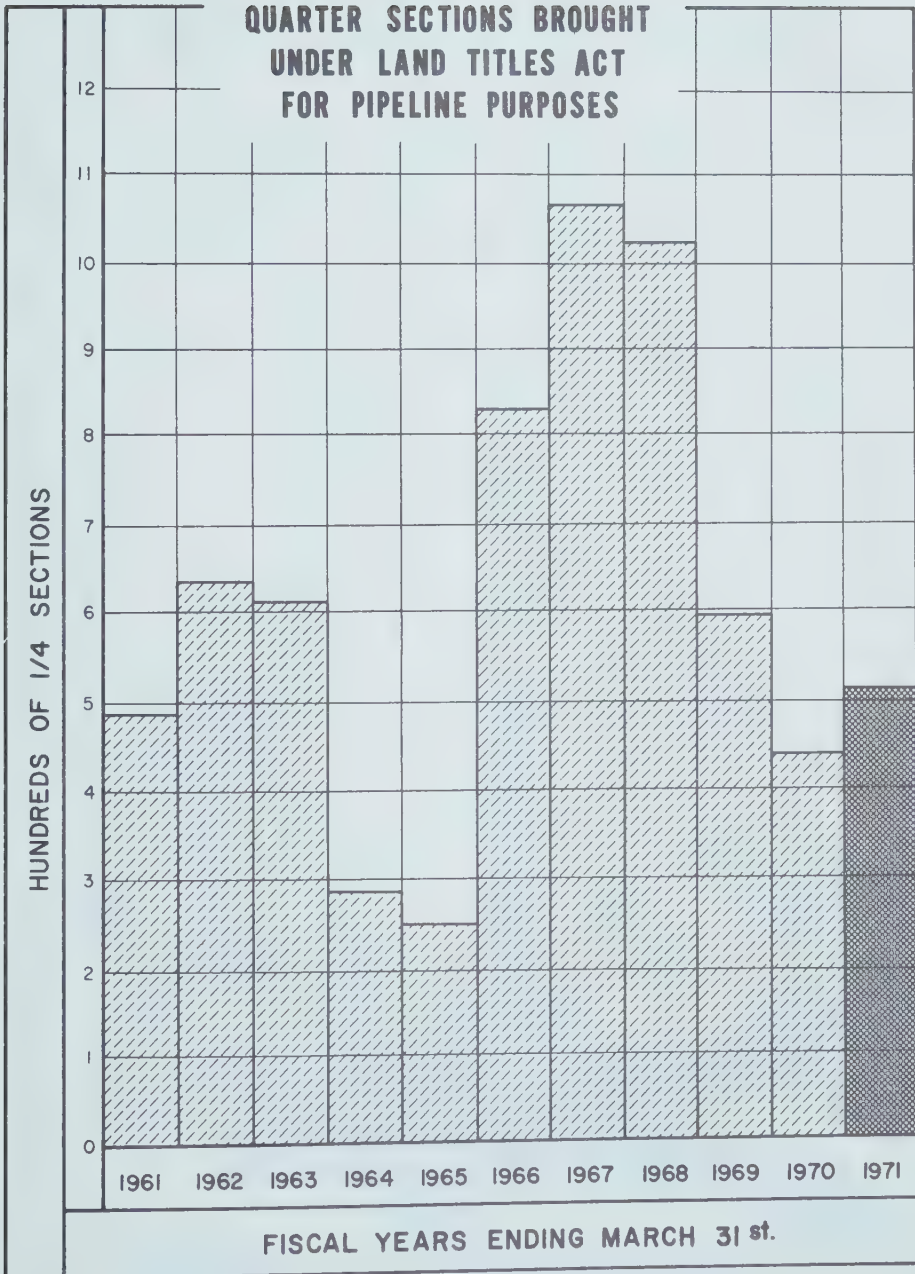
#### LAND USE ASSIGNMENT

The section is responsible for the determination of primary and secondary uses of public lands in the Province of Alberta and subsequently for proposals on the zoning of these lands into green, white and yellow zones. Priority for this planning work has been placed on the fringe areas of settlement.

During the year plans for three areas received approval and three new areas were taken up for study.

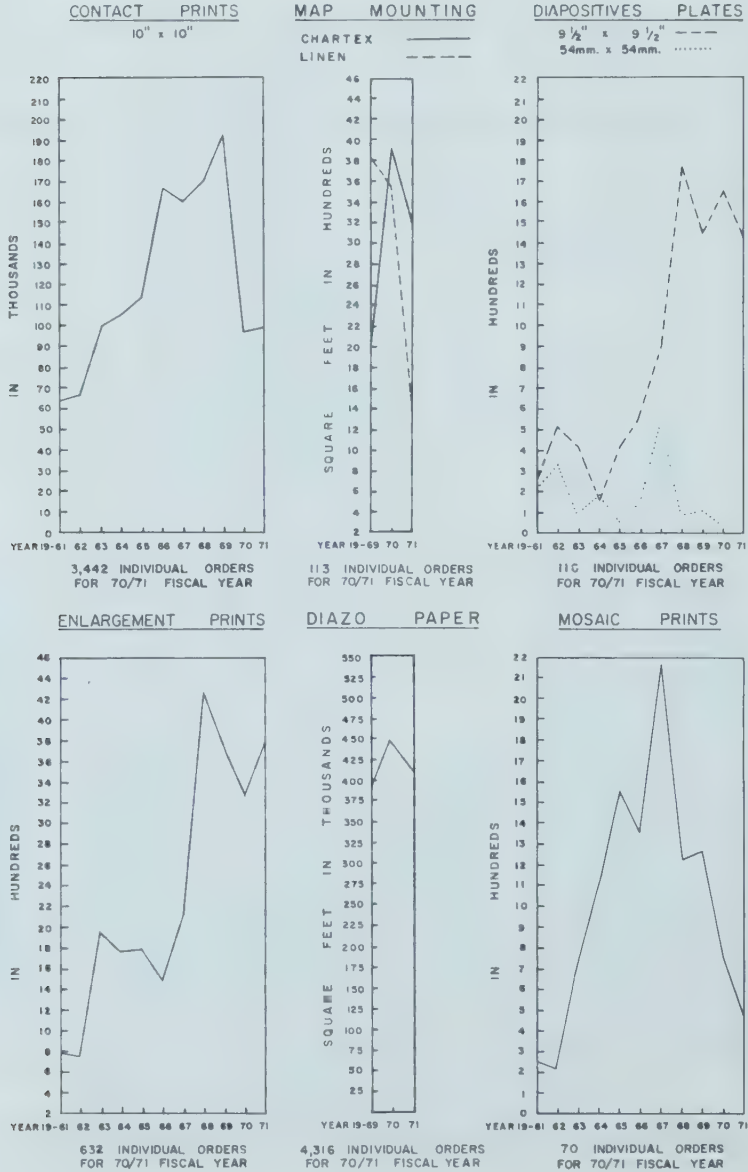
The map included shows the land use planning process in three stages:

1. Base maps prepared — the preparation of all basic data in map form.
2. Fieldwork conducted and report prepared — this stage involves gathering of field data, interviews with local people, consultation with contributing agencies and the preparation of a report.
3. Plans approved — this stage consists of meetings with government personnel of various departments both in the district and at head office, the Farm Adjustment Committees and local farmers, the Conservation and Utilization Committee. The final plan is approved by ministerial order.





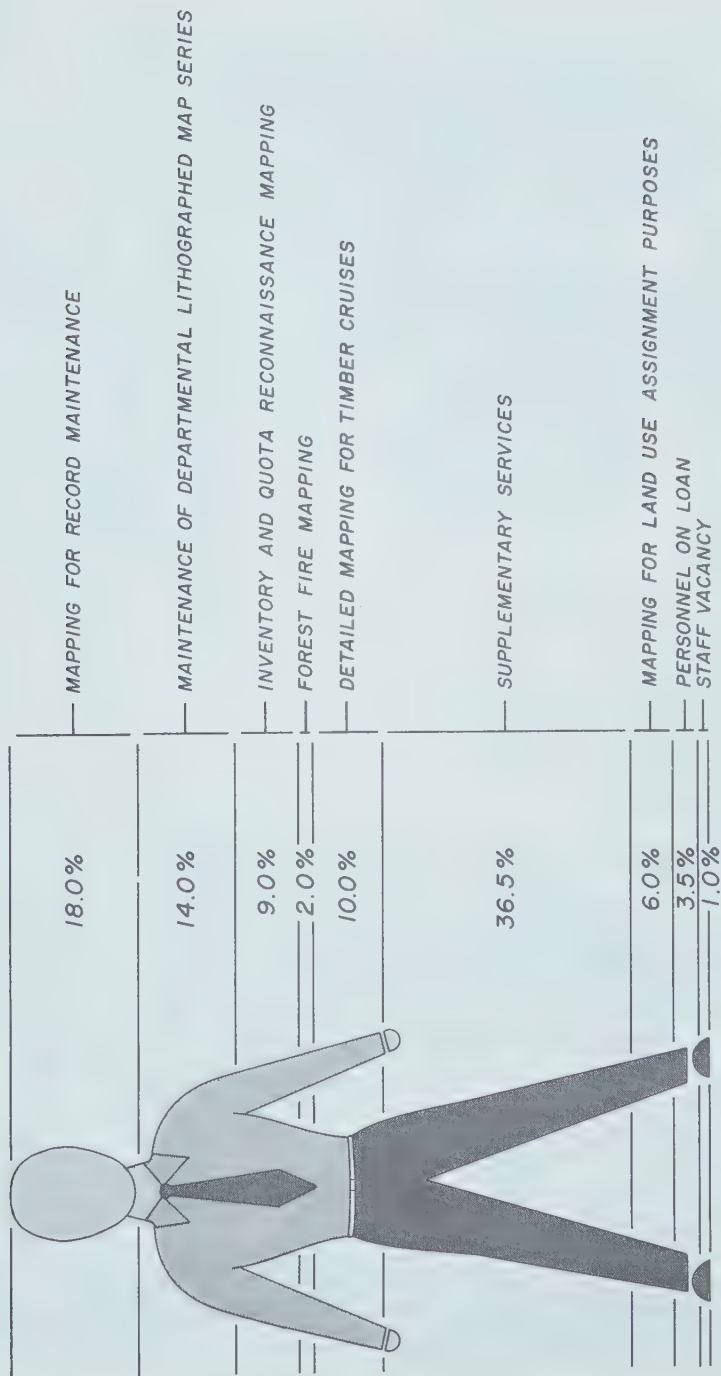
PRINTS-PLATES-DIAZO PAPER-MAP MOUNTING  
SUPPLIED FROM TECHNICAL DIVISION  
FOR THE FISCAL YEARS ENDING MARCH 31



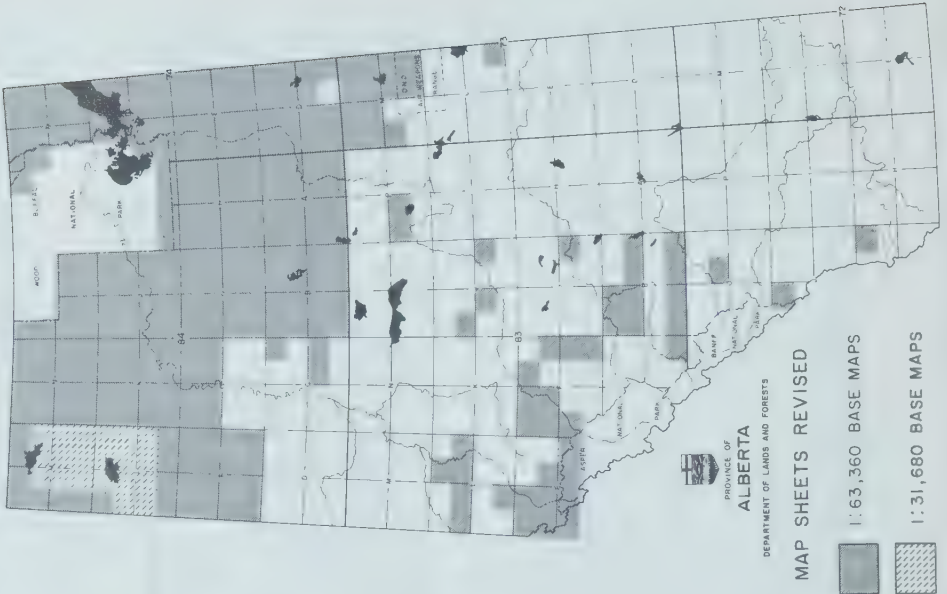


# FUNCTIONS OF THE CARTOGRAPHIC SECTION

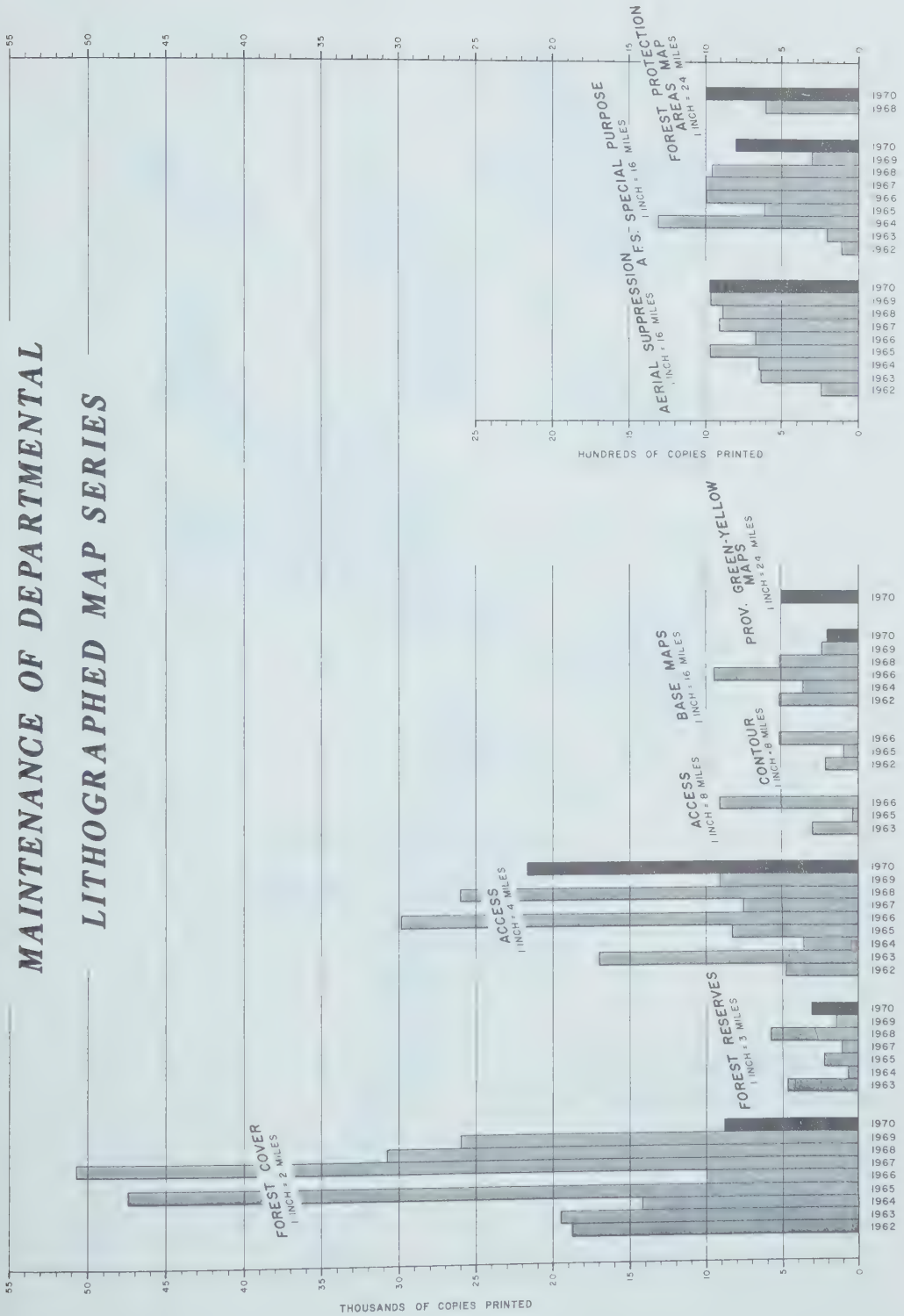
APRIL 1, 1970 TO MARCH 31, 1971





MAPPING FOR RECORD MAINTENANCE

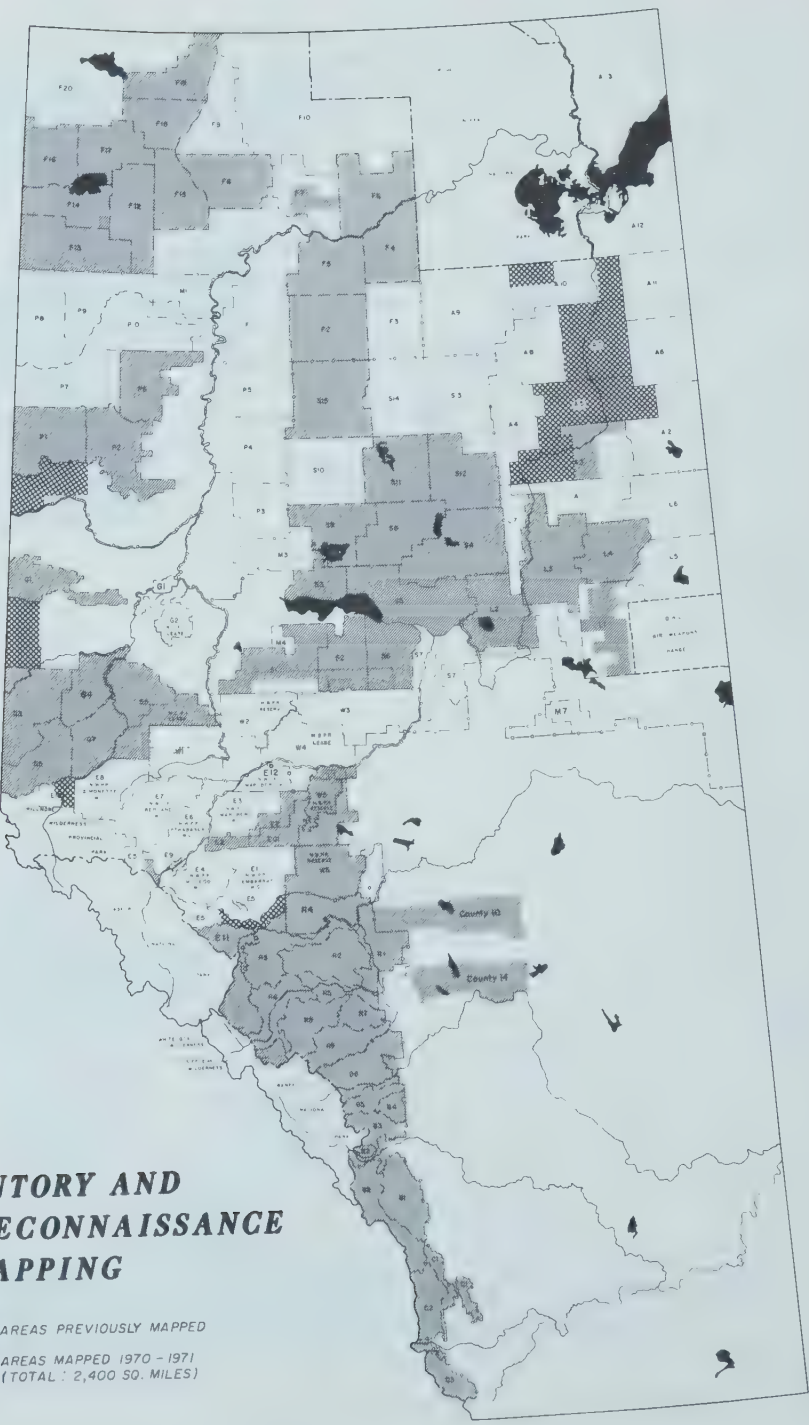


**MAINTENANCE OF DEPARTMENTAL  
LITHOGRAPHED MAP SERIES**

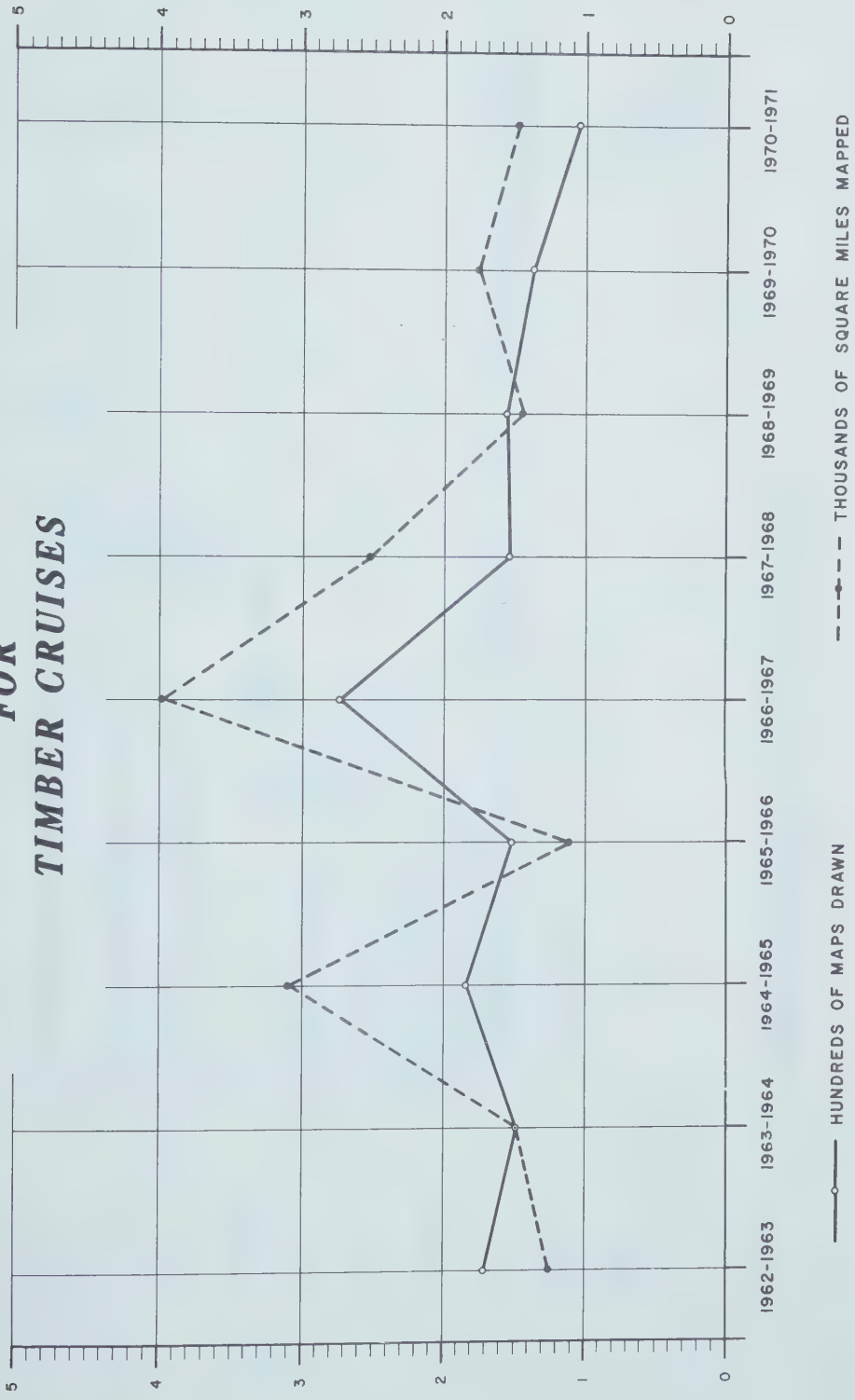


**INVENTORY AND  
QUOTA RECONNAISSANCE  
MAPPING**

 AREAS PREVIOUSLY MAPPED  
 AREAS MAPPED 1970 - 1971  
(TOTAL : 2,400 SQ. MILES)

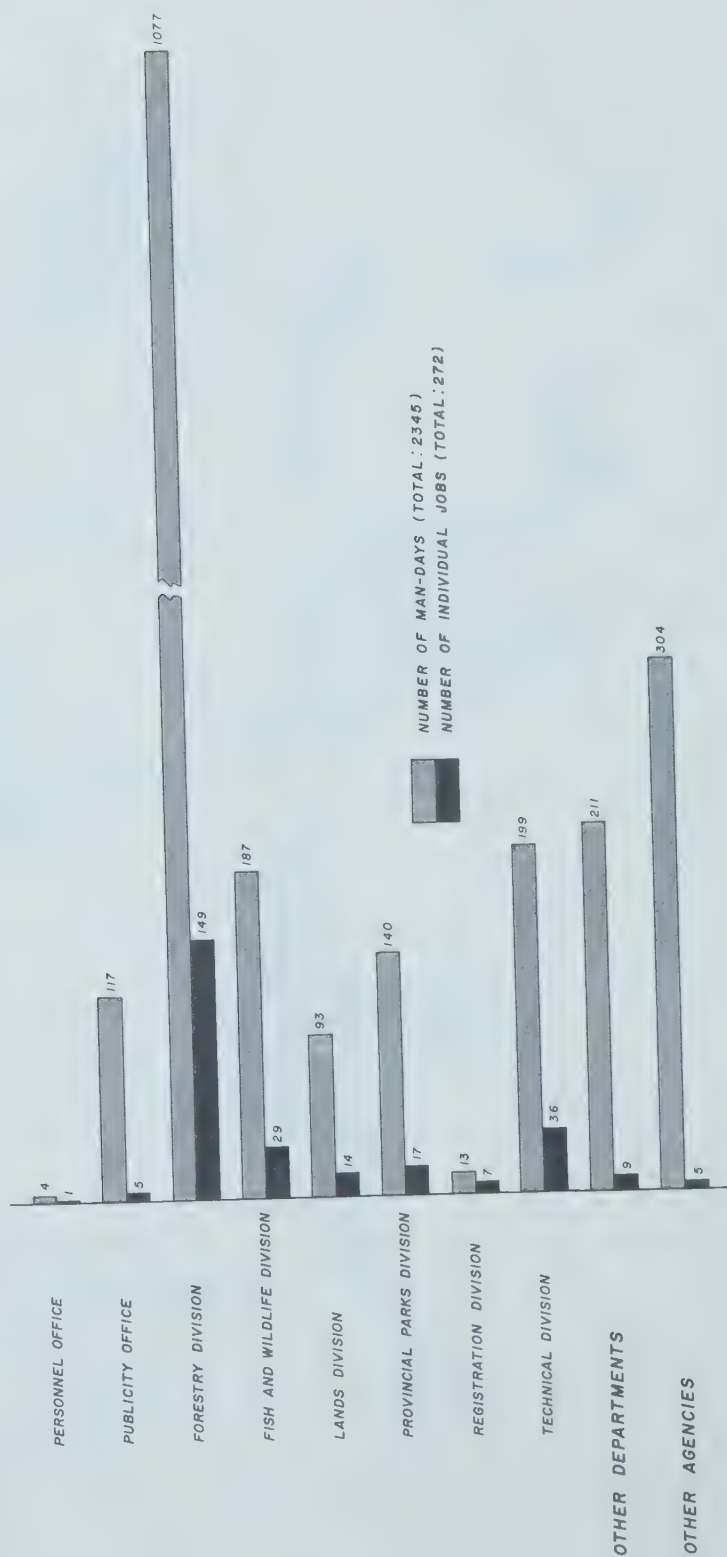


# DETAILED MAPPING FOR TIMBER CRUISES

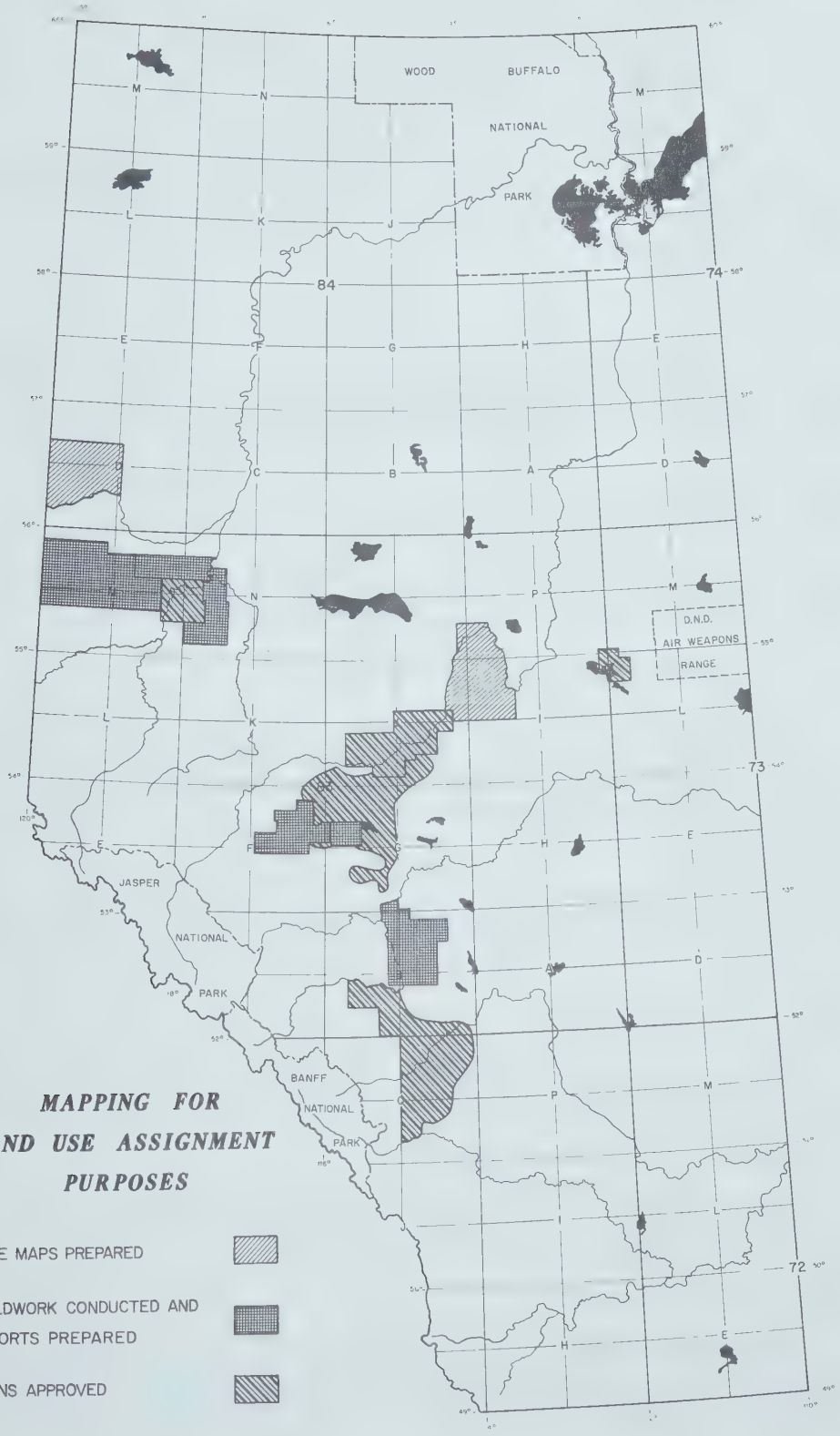


# SUPPLEMENTARY SERVICES




DEPARTMENT OF LANDS & FORESTS







**MAPPING FOR  
LAND USE ASSIGNMENT  
PURPOSES**

- BASE MAPS PREPARED 
- FIELDWORK CONDUCTED AND REPORTS PREPARED 
- PLANS APPROVED 

## REGISTRATION DIVISION

### REPORT OF THE REGISTRAR

*H.E. BENNETT*

The following report of the activities of the division for the past year reflects the continued growth and increased work-load of the whole department. Once again we have been able to handle the demands without any increase in staff and the support given by each section is appreciated.

#### MAIL CAGE

The volume of incoming mail increased by 2.6% over the past year and the outgoing mail increased by 12.2%. The volume of mail containing revenue increased by 9% and the increase in revenue received in the mail increased by 5.2%. More customers came to the department in person and the revenue received from them was 56.2% higher than the previous year.

#### FILING SECTION

While there was an 11% increase in the number of files supplied to various divisions as per their telephone requests, the detailed statement shows a reduction in the file attachments. This is mainly due to the shift in the search for oil outside of Alberta.

#### RECORDS SECTION

There was also a reduction in the volume of work supplied to other divisions; however there was an 8.7% increase in the number of reservations recorded in the township registers. Available spare time was used to transcribe and update the township registers which resulted in a 47% increase over the previous year.

#### MICROFILMING

During the year 328 rolls of film were used in doing microfilm work for the Department of Mines and Minerals and this department. This was an increase of 103.7% over the previous year.

#### SURFACE RIGHTS PLOTTING

The slow-down in the oil industry is directly indicated in this section. The extra time has been used to update the 2,866 plots now in use.

#### LIBRARY

During the year 310 new books were purchased, 283 memberships and subscriptions processed as well as the routine library duties.

#### SYSTEMS AND PROCEDURES

The requests for studies have again exceeded the time available to complete them, however reports were compiled on the following as well as the performance of routine work, such as designing of new forms and giving assistance in implementing changes of procedure.

1. Special Land Use – Management Audit of File Control System.
2. Rural Adjustment System – Preliminary Report.
3. Forest Land Use – Work Measurement Study, Clerical and Geophysical Areas.
4. Forest Land Use – Procedure Study, Geophysical Plans and Land Use Dispositions.

At the end of the year there were eight outstanding requests.

1. Technical Division – Procedure Study.
2. Grazing Section – Procedure Study.
3. File Records – File Distribution Systems Study.
4. Land Appraisal – Organization Study.
5. Timber Management – Procedure and Systems Study of Timber Accounts.
6. Fish and Wildlife Division – Organization Study.
7. Alberta Forest Service – Forms Control System.
8. Special Land Use – Work Measurement Study of Administration Area.

## REGISTRATION — 1970-71

	Yearly Total	Daily Average	Increase (+) or Decrease (-) from Previous Year	Minimum and Maximum Range Per Day
1. Mail Cage				
Incoming mail (pieces)	165,936	659	+ 2.6	351 - 1,396
Outgoing mail (pieces)	314,189	1,247	+ 12.2	513 - 12,796
Total (pieces)	480,125	1,906	+ 8.6	864 - 14,192
Incoming Registered (pieces)	2,260	9	- 21	0 - 71
Outgoing Registered (pieces)	1,286	5	- 12	0 - 90
Total (pieces)	3,546	14	- 17.9	0 - 161
Cash Blotter Entries	36,795	146	+ 9	61 - 519
Interim Receipts Issued	3,253	13	+ 2.2	5 - 34
Total	40,048	159	+ 8.4	66 - 553
Cash Received (mail)	\$11,268,821.60	\$44,718.00	+ 5.2	\$2,193.62 - 1,474,019.69
Cash Received (counter)	\$ 1,893,861.28	\$ 7,515.00	+ 56.2	\$ 241.61 - 298,118.31
Total	\$13,162,682.88	\$52,233.00	+ 10.4	\$2,435.23 - 1,772,138.00
2. Filing				
Files (live, storage, micro-film (Grand Total)	571,663			
Telephone request for files	36,894	146	+ 11.3	53 - 200
Deferred & Special Searches	3,375	13	+ 11.5	4 - 27
Files supplied Re: Deferred & Special Searches	4,071	15	+ 3	4 - 34
Files supplied as per written requests	46,633	185	- 1.4	12 - 592
3. Filing Records				
Files opened	7,574	30	- 3.4	
Files closed	3,656	15	- 53.2	
Kardex Entries	31,394	125	- 16	
Files Processed	54,398	216	- 43.5	
Marking & Attachments	163,739	650	- 23.5	140 - 1,522
4. Microfilming				
Rolls Film Exposed	328		+103.7	
Rolls Film Checked	328		+103.7	
5. Records				
Files Received	40,211	160	- 14.1	75 - 610
Lands Searches (internal) Pages	17,038	68	- 17.1	20 - 131
Land Searches (commercial) Pages	1,738	7	- 19	1 - 27
Register Pages Transcribed	1,754	7	+ 47	
Assignments Registered	643	3	- 7.2	
Notifications	729	3	- 21.7	
Reservations	1,008	4	+ 8.7	
6. Surface Rights Plotting				
Total Plots in Use	2,866			
Files Received in Distribution	7,221	29	- 15	2 - 153
Special Use Applications	2,406			

## ACCOUNTS DIVISION

## REPORT OF THE ADMINISTRATIVE ACCOUNTANT

*A. McCALLUM*

Gross receipts on Income and Capital Accounts for the year under review totalled \$12,586,594.48. Monies refunded amounted to \$1,170,449.61, leaving a total net revenue from all sources at \$11,416,094.87.

## REVENUE

Net Revenue on Income Account for the year was \$9,564,714.30, being an increase of \$563,648.60 over the previous year. Main increases and decreases are as follows:

	Increase	Decrease
Fisheries	\$ 2,299.18	
Wildlife	175,193.59	
Lands & Grazing	238,177.99	
Parks	34,105.73	
Forestry	76,211.20	
Eastern Rockies Forest Conservation Board		64,035.11
Miscellaneous:		
Administration Sundry Revenue		10,602.41
Maps and Plans	8,087.46	
Aircraft Landing Fees	14,680.33	
Sale of Aerial Photographic Maps	19,971.75	
Sale of "Atlas of Alberta"	17,591.95	
Reimbursement of Salaries		20,462.46
Services & Supplies to Staff	30,475.21	
House Rentals	1,307.31	
Training Program-Dept. of Education		47,019.10
Indian Reserve Fire Protection Agreement	9,450.20	
Alberta Housing & Urban Renewal	81,890.52	
Other		3,674.74
Net Revenue Increase		563,648.60
	\$709,442.42	\$709,442.42

Total amount of monies refunded during the year amount to \$1,170,499.61. There was a further amount of \$432,889.44 refunded in respect of revenue received in a previous year. Refunds to the Taxing Authority as provided by the Grazing Lease Taxation Act, (repealed January 1/70), The Crown Cultivation Leases Act, and The Tax Recovery Act, totalled \$137,181.88.

Monies held in trust accounts as at March 31, 1971, amounted to \$492,891.96 as follows:

Miscellaneous	\$229,302.47
Homesteader's Compensation	—

Timber Deposits	259,189.49
Timber Forfeited Monies & Reforestation	4,400.00

The balance of the Wildlife Damage Fund Trust Account at 31/3/71 stood at \$1,294.48. The Wildlife Depredation Fund Trust Account showed a balance of \$33,660.98 for the same period.

Active Accounts Receivable as at March 31, 1971, stood at 32,701, including Fish and Game Vendor's Accounts totalling approximately 1,230.

Official receipts and permits used for the year totalled 63,208 from total cash entries of 69,740.

Fishing Licences and Game Certificates and Stamps sold during the 1970-71 season were:

Fishing Licences	148,337
Wildlife Certificates	128,708
Wildlife Stamps	242,188
Fishing Licences — Miscellaneous	2,665

Under the various agreements negotiated between Canada and the province, the province was reimbursed by Canada as follows:

A.R.D.A. (Income)	\$ 36,316.83
A.R.D.A. (Capital)	255,705.36
Canada Land Inventory	210,103.21
Department of Education re Training Program	47,520.75
Indian Reserve Fire Protection Agreement	18,900.40
Manpower Agreement	20,610.32

Collections under The Homestead Lease Loan Act amounted to \$87,775.97.

#### EXPENDITURE

Disbursements for the year on Income Account amounted to \$22,486,515.25, while Capital disbursements for the same period totalled \$2,548,048.44.

Firefighting costs for the year were \$4,546,358.77.

In connection with the destruction of pests, an amount of \$5,718.51 was disbursed.

Funds disbursed in respect of the developing and maintaining of Provincial Parks in the province amounted to \$2,792,307.94.



Under the Homestead Lease Loan Act, funds totalling \$17,807.50 were disbursed during the current year, which brings the total disbursements under this act to \$2,265,255.04. Receipts for the year totalled \$87,775.97. Loans repaid to date equal \$1,438,164.36.

Maintenance costs of the Eastern Rockies Forest Conservation Board Agreement, including expenses of the board, totalled \$1,087,734.70.

Aircraft patrol operations for the year totalled \$512,588.55.

The following is a statement of receipts and disbursements made by the Alberta Hail and Crop Insurance Corporation in respect of the Wildlife Damage Fund of Alberta for the 1970 crop year:

#### RECEIPTS:

From Province of Alberta	\$415,161.51	
From Applicants (Registration Fees)	29,674.50	
Interest on Funds Invested	938.23	
		\$445,774.24

#### DISBURSEMENTS:

Claims Paid	419,536.95	
Adjusters' Fees & Expenses	13,507.88	
Agents' Commissions	3,300.00	
Administrative Expenses	8,080.38	
		\$444,425.21

Balance Paid to Province of Alberta	\$ 1,349.03
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The whole of the Accounting operation continues to expand, and as a service branch, more and more demands are being made on the Accounts Branch staff for statistics, information and queries.

## STATIONERY AND SUPPLIES

MAIL AND EXPRESS	1969/70	1970/71
Express Parcels	681	409
Parcels (over 1 lb.)	4,121	6,206
Letters (parcels under 1 lb.)	1,964	1,358
Parcels by Bus	150	114
Magazines	60,000	32,500
Parcels by Messenger (Registration)	798	402
Messenger (Stationery) — Trips	2,154	3,342
— Parcels	5,539	7,241
Parcels (Loomis, Byers, Air)	30	364

## REGULATIONS AND TAGS PROCESSED

Bird and Big Game Regulations	239,600	250,000
Big Game Tags	224,607	247,130
Angling Regulations	220,000	240,000

## STATIONERY REQUISITIONS BY BRANCHES

## GENERAL ADMINISTRATION

Accounts	168	165
Personnel	72	64
Deputy Minister	39	28
Education and Information	65	83
LANDS	511	561
REGISTRATION	138	124
FISH AND WILDLIFE	611	637
TECHNICAL	92	92
PARKS	288	275
Forest Administration	101	101

# ACCOUNTS

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	1969/70	1970/71
Forest Protection (Head Office)	207	205
Forest Protection (Division)	376	385
Timber Management	60	56
Forest Land Use	38	83
Construction and Maintenance	51	42
Forest Technology School	54	55
TOTAL	2,871	2,956

## PRINTING VOLUME

### Transmitted to Queen's Printer

Acts & Regulations	-	52,450
Regulations (Angling and Big Game)	452,250	520,000
Books and Brochures	100,170	388,550
Forms, Licences and General Printing	4,124,149	4,946,600
Magazines	67,000	35,000
Envelopes	469,000	641,000
Dept. Letterheads Printed	160,000	320,000

### Processed by this Office

Xerox (books included)	34,003	699,437
Bruning Masters	1,433	2,006
Typed Masters	930	588
Sheets Run Off on Offset (books included)	769,323	933,910

## PURCHASE ORDERS INITIATED

Direct Purchase Order	481	545
Interdept. Commitments	604	602

## MISCELLANEOUS SERVICES

Number of Newspaper Advertisements Initiated	226	318
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	1969/70	1970/71
Number of Telephone Requests Initiated	136	138
Processed — Addressograph Prepared, Amended, Cancelled	6,069	11,000
Magazine	60,000	32,500

## STATEMENT "A"

## STATEMENT OF RECEIPTS FROM ALL SOURCES

APRIL 1, 1970 TO MARCH 31, 1971

	GROSS RECEIPTS	REFUNDS	NET RECEIPTS
Income Account	\$10,243,280.35	\$ 678,566.05	\$ 9,564,714.30
Capital Account	1,412,035.78	20,244.62	1,391,791.16
Reimbursement of Previous Year's Expenditure	30,337.99	.97	30,337.02
Timber Deposits Trust	61,770.00	16,060.00	45,710.00
Homestead Compensation Trust	1,467.02	1,467.02	
Homestead Lease Loan Trust	89,425.33	1,649.36	87,775.97
Miscellaneous Trust	309,935.44	193,314.03	116,621.41
Unapplied Receipts Carried Forward			
Improvements	33,285.26	24,075.17	9,210.09
Suspense	395,057.31	235,122.39	159,934.92
Public Lands Grazing and Reserve Permits		—	—
Homestead Lease Crop Share	10,000.00		10,000.00
Public Lands Grazing Lease Rentals			
	\$12,586,594.48	\$1,170,499.61	\$11,416,094.87

## STATEMENT "B"

## STATEMENT OF RECEIPTS – INCOME ACCOUNTS

APRIL 1, 1970 TO MARCH 31, 1971

	GROSS RECEIPTS	REFUNDS	NET RECEIPTS
<b>FISHERIES ACCOUNTS</b>			
Fishing Licences	\$ 171,024.80	\$ ,470.70	\$ 170,554.10
Fisheries Miscellaneous	533.81	.60	533.21
Fisheries Royalty	22,357.79	5.00	22,352.79
Fish Prepaid Account	321,407.10	34,581.60	286,825.50
	515,323.50	35,057.90	480,265.60
<b>GAME ACCOUNTS</b>			
Game Licences	1,493,084.03	332,227.68	1,160,856.35
Fur Tax	87,517.44	1,166.91	86,350.53
Game Branch Miscellaneous	2,416.11	12.50	2,403.61
Prepaid Game Account	222,639.45	94,679.40	127,960.05
	1,805,657.03	428,086.49	1,377,570.54
<b>LANDS AND GRAZING</b>			
Grazing Leases and Permits	827,952.82	93,989.59	733,963.23
Hay Permits	9,146.55	1,853.00	7,293.55
Homestead Leases and Crop Share	195,977.76	34,831.88	161,145.88
Provincial Lands Sales Interest	180,340.49	417.47	179,923.02
Cultivation Leases and Permits	153,676.56	1,650.24	152,026.32
Right of Entry Leases	645,347.31	8,711.15	636,636.16
Miscellaneous Leases	175,367.31	7,556.34	167,810.97
Public Lands Sundry Revenue	165,184.39	12,347.00	152,837.39
Sand and Gravel Leases, Permits	182,737.02	21,866.18	160,870.84
Land Patent Miscellaneous	1,324.21	—	1,324.21
	2,537,054.42	183,222.85	2,353,831.57
<b>PARKS PERMITS, FEES, RENTALS</b>	188,395.03	158.43	188,236.60
<b>TIMBER ACCOUNTS</b>	4,132,966.75	17,331.76	4,115,634.99
<b>EAST SLOPE SURFACE RIGHTS</b>	342,369.25	1,714.08	340,655.17
<b>MISCELLANEOUS</b>			
Administration Sundry Revenue	172,083.09	3,182.80	168,900.29
Maps and Plans	40,288.96	3,826.84	36,462.12
Aircraft Landing Fees	28,363.72	—	28,363.72
Sale of Aerial Photographic Maps	87,486.08	3,874.23	83,611.85
Reimbursement re Forest Technology School	22,975.82	—	22,975.82
Sale of "Atlas of Alberta"	33,657.20	229.75	33,427.45
Dominion-Provincial Manpower Agreement	20,610.32	—	20,610.32
Sale of Equipment	—	—	—
Sale of Materials and Supplies	—	—	—
Dominion-Provincial Agreement re			
Air Weapons Range-Primrose Lake	53,049.98	—	53,049.98
Reimbursement of Salaries	6,898.57	—	6,898.57
Services and Supplies to Staff	92,879.56	45.25	92,834.31
Rentals (House)	14,909.40	1,835.67	13,073.73
Reimbursement-Department of Education re			
Training Program	47,420.75	—	47,420.75
Indian Reserve Fire Protection Agreement	18,900.40	—	18,900.40
Alberta Housing and Urban Renewal	81,890.52	—	81,890.52
	721,514.37	12,994.54	708,519.83
<b>TOTALS</b>	<b>\$10,243,280.35</b>	<b>\$678,566.05</b>	<b>\$9,564,714.30</b>



STATEMENT "C"

STATEMENT OF RECEIPTS – CAPITAL ACCOUNT

\* APRIL 1, 1970 TO MARCH 31, 1971

	GROSS RECEIPTS	REFUNDS	NET RECEIPTS
Clearing and Breaking Projects	\$ 8,601.99	\$ —	\$ 8,601.99
Public Lands Sales Principal	965,475.01	11,448.07	954,026.94
Homestead Sales Principal	434,466.81	8,796.55	425,670.26
Land Utilization Advances	3,491.97	—	3,491.97
	\$1,412,035.78	\$20,244.62	\$1,391,791.16

## STATEMENT "D"

## STATEMENT OF RECEIPTS BY BRANCHES

\* APRIL 1, 1967 TO MARCH 31, 1971

FISCAL YEAR ENDING	MARCH 31/68	MARCH 31/69	MARCH 31/70	MARCH 31/71
INCOME ACCOUNT				
Fisheries Branch	\$ 288,121.12	\$ 449,381.87	\$ 477,966.42	\$ 480,265.60
Game Branch	1,127,948.25	1,258,192.44	1,202,376.95	1,377,570.54
Lands and Grazing	2,320,860.82	2,395,117.51	2,115,653.58	2,353,831.57
Timber Branch	3,169,933.46	3,263,875.30	4,039,423.79	4,115,634.99
East Slope Surface Rights	337,647.61	353,294.40	404,690.28	340,655.17
Miscellaneous	502,901.48	595,956.22	606,823.81	708,519.83
Provincial Parks	69,571.68	101,686.58	154,130.87	188,236.60
C.L.I. and ARDA Claims processed through Department of Agriculture	187,797.63	262,697.68	354,825.99	246,420.04
CAPITAL ACCOUNT				
Land Sales Principal	957,826.60	1,038,038.35	872,527.38	954,026.94
Homestead Sales Principal	647,873.28	566,556.89	467,369.83	425,670.26
Clearing and Breaking Projects	16,060.31	7,389.23	3,985.82	8,601.99
Land Utilization Advances	3,049.42	3,324.36	2,107.96	3,491.97
Dominion Grant re Wabasca Airport	46,459.81	—	—	—
Dominion Grant re Footner Lake Airport	117,114.95	—	—	—
Trans-Canada Highway Campground and Picnic Area Program	—	2,805.33	—	—
ARDA Claims processed through Department of Agriculture	74,091.21	524,661.63	614,356.08	255,705.36
Transferred to Other Departments (PYR)	22,530.11	19,106.99	57,559.04	30,337.02
Timber Deposits Trust	51,591.10	216,281.63	112,672.75	45,710.00
Homestead Compensation Trust	4,235.55	3,594.04	1,897.86	—
Homestead Lease Loan Trust	140,002.42	99,690.01	99,430.48	87,775.97
Miscellaneous Trust	68,495.97	91,582.84	188,764.43	116,621.41
Unapplied Receipts Carried Forward	473,705.07	452,355.89	202,496.53	179,145.01
	\$10,627,817.85	\$11,705,589.19	\$11,979,059.85	\$11,918,220.27

STATEMENT "E"

Service	1801 Minister's Office	1802 General Administration	1803 Advisory Board and Councils	1829 Junior Forest Rangers	1835 Fish and Wildlife Division	1836 Wildlife Damage Control	1845 Lands Division	1846 Provincial Parks	Totals
Advertising .....	\$ —	\$ 2,810.75	\$ —	\$ —	\$ —	\$ —	\$ 4,863.24	\$ 351.11	\$ 14,064.74
Automobiles, trucks and mobile equipment, purchase.....	—	—	—	5,595.00	120,829.07	1,273.57	19,232.75	259,097.52	760,628.31
Automobiles, trucks and mobile equipment, expenses.....	—	700.99	—	1,073.91	49,350.42	—	15,475.86	162,281.25	1,079,690.79
Buildings and sites .....	—	—	—	—	595.00	—	—	9,940.00	10,535.00
Canada Pension Plan — employer's contribution.....	—	—	—	—	—	—	—	—	152.84
Compensation .....	—	—	—	400.00	—	—	980.00	1,074.50	8,814.53
Contracts and agreements .....	—	404.28	—	—	4,691.01	827.84	32,316.65	41,210.87	1,045,182.58
Fees and commissions .....	—	2,350.60	1,075	—	3,827.37	—	1,003.45	4,198.16	48,131.85
Freight, express and cartage .....	—	308.38	—	—	15,072.23	—	1,972.14	8,274.98	157,070.62
Furnishings, equipment and tools .....	—	2,534.74	—	104.07	31,074.67	839.65	8,390.33	61,179.81	312,892.73
Grants, prizes .....	—	150.00	—	—	9,000.00	—	—	—	36,187.75
Hospitalization .....	—	—	—	—	—	—	—	—	127.75
Insurance .....	—	—	—	—	415.93	—	531.14	6,657.01	19,363.68
Interest .....	—	—	—	—	—	—	4,687.61	—	8,408.73
Maintenance in homes and schools.....	—	—	—	—	—	—	—	—	29,489.00
Materials and supplies, administrative	261.50	111,282.83	—	11,300.10	100,192.76	880.12	64,065.08	62,417.14	1,293,115.61
Materials and supplies, construction....	—	546.99	—	1,493.78	14,851.41	—	24,154.64	157,626.20	348,685.93
Miscellaneous expenses .....	51.68	157.26	—	14.40	190.80	41.20	119.25	104.16	2,173.21
Postage .....	—	10,466.25	—	—	12,683.52	—	12,928.34	2,497.94	56,805.51
Rentals .....	—	6,629.79	—	3,685.53	31,933.40	—	17,279.02	88,620.01	2,962,248.73
Repair and maintenance of furnishings, equipment and tools.....	—	—	—	285.81	3,381.66	—	679.43	13,240.77	107,585.86
Repair and maintenance of office machines .....	—	4,266.35	—	—	4,051.76	—	4,332.28	1,512.63	28,899.33
Salaries .....	22,464.00	497,831.85	—	—	1,194,066.44	—	918,850.24	626,762.08	8,740,380.77
Taxes .....	—	—	—	—	—	—	70,120.71	—	70,426.91
Telephone and telegraph .....	1,237.55	1,721.55	—	—	52,297.46	—	14,610.64	47,480.64	607,716.46
Travelling expenses of other than public servants .....	—	—	1,628	874.95	113.25	—	—	—	37,479.81
Travelling expenses of public servants	1,597.25	8,593.39	—	1,203.24	213,304.45	1,521.73	84,802.70	96,149.27	752,324.21
Tuition .....	—	1,503.29	—	—	156.00	—	1,577.75	235.00	4,011.87
Unemployment insurance, government portion.....	—	—	—	—	192.08	—	813.05	5,265.52	18,215.01
Utilities .....	—	—	—	227.22	3,171.42	—	394.47	81,321.68	206,068.23
Wages .....	—	12,076.42	—	30,269.31	54,380.88	334.40	115,040.99	878,677.60	3,508,608.19
<b>TOTAL: Income Account .....</b>	<b>\$25,611.98</b>	<b>\$664,335.71</b>	<b>\$2,703</b>	<b>\$56,527.32</b>	<b>\$1,919,822.97</b>	<b>\$5,718.51</b>	<b>\$1,419,221.76</b>	<b>\$2,616,175.85</b>	<b>\$12,275,488.52</b>

GOVERNMENT  
LANDS AND  
EXPENDITURE CLASSIFIED  
FOR THE YEAR

Service	1801 Minister's Office	1802 General Administration	1803 Advisory Board and Committees	1804 Technical Division	1805 Registration Division	1815 Alberta Forest Service Forest Administration Branch	1816 Alberta Forest Service Forest Management Branch	1817 Alberta Forest Service Quota Reforestation	1818 Alberta Forest Service Silviculture	1819 Eastern Canadian Forest Conservation Board
Advertising .....	\$ —	\$ 2,810.75	\$ —	\$ 358.36	\$ —	\$ 409.78	\$ 2,075.22	\$ —	\$ —	\$ —
Automobiles, trucks and mobile equipment, purchase .....	—	—	—	—	—	—	—	—	—	—
Automobiles, trucks and mobile equipment, expenses .....	—	700.99	—	1,216.89	650.38	108.90	626.05	—	11,599.78	1,016.92
Buildings and sites .....	—	—	—	—	—	—	—	—	—	—
Contracts and agreements .....	—	404.28	—	327.58	—	293.00	1,451.51	5,905.20	220.75	152.84
Fees and commissions .....	—	2,350.60	1,075.00	1,519.55	431.87	2,442.28	332.61	—	289,219.65	243.75
Freight, express and cartage .....	—	308.38	—	2,341.24	—	41,519.21	3,161.88	1,552.80	373.25	1,488.50
Furnishings, equipment and tools .....	—	2,534.74	—	65,377.68	1,339.13	11,335.80	7,643.75	—	5,588.20	55.17
Land .....	—	150.00	—	—	—	27,037.75	—	—	—	127.78
Interest .....	—	—	—	472.80	—	—	—	—	—	—
Maintenance in homes and schools .....	—	—	—	—	—	—	—	—	—	—
Materials and supplies, administrative .....	261.50	111,282.83	—	109,091.22	13,196.39	82,140.41	57,708.98	425.94	32,364.31	7,357.57
Materials and supplies, construction .....	—	546.99	—	1,537.94	—	—	4,686.82	—	8,846.42	148.08
Materials and supplies, forest .....	51.68	157.26	—	45.00	71.66	27.68	37.74	78.56	31.70	197.54
Postage .....	—	10,466.25	—	2,980.35	121.34	12,973.89	—	—	—	255.00
Printing .....	—	6,629.79	—	4,111.12	—	26,280.60	19,598.22	81,134.78	183,895.59	152.50
Repair and maintenance of furnishings, equipment and tools .....	—	—	—	3,352.77	—	—	1,070.97	—	428.82	—
Rentals .....	—	4,266.35	—	944.83	730.88	9,104.25	1,773.12	—	40,218.70	35,277.38
Salaries .....	1,237.55	1,721.55	—	910.72	—	34,825.65	3,608.32	—	870.28	678.44
Taxes .....	—	—	1,628.25	168.00	—	553.96	2,476.30	766.45	318.45	1,119.47
Travelling expenses of public servants .....	1,597.25	8,593.39	—	14,099.95	60.72	226,271.31	23,904.00	523.00	9,306.52	1,871.91
Tuition .....	—	1,503.29	—	234.00	112.83	195.00	—	—	—	—
Unemployment insurance .....	—	—	—	—	—	3,561.95	1,372.31	—	632.35	—
Utilities .....	—	—	—	—	—	346.61	1,144.87	—	1,304.35	—
Wages .....	—	12,076.42	—	8,063.89	2,174.96	66,590.49	252,840.83	18,958.43	105,517.45	25,938.19
<b>TOTAL Income Account .....</b>	<b>\$25,611.48</b>	<b>\$66,435.71</b>	<b>\$2,703.25</b>	<b>\$845,511.16</b>	<b>\$229,084.75</b>	<b>\$3,965,462.72</b>	<b>\$699,778.10</b>	<b>\$109,356.06</b>	<b>\$718,471.02</b>	<b>\$76,300.33</b>

Service	1881 Aerial Photography and Forest Inventory
Advertising .....	\$ —
Automobiles, trucks and mobile equipment, purchase .....	—
Automobiles, trucks and mobile equipment, expenses .....	—
Building and sites .....	—
Contracts and agreements .....	16,007.50
Fees and commissions .....	—
Freight, express and cartage .....	—
Furnishings, equipment and tools .....	12,900.00
Land .....	—
Livestock, fur bearing animals, poultry, insects and fish .....	—
Materials and supplies, administrative .....	—
Materials and supplies, construction .....	—
Miscellaneous expenses .....	—
Rentals .....	—
Repair and maintenance of furnishings, equipment and tools .....	—
Taxes .....	—
Telephone and telegraph .....	—
Travelling expenses of other than public servants .....	—
Travelling expenses of public servants .....	—
Unemployment insurance, government portion .....	—
Utilities .....	—
Wages .....	—
<b>TOTAL: Capital Account .....</b>	<b>\$28,907.50</b>

OF THE PROVINCE OF ALBERTA

STATEMENT "E"

FORESTS DEPARTMENT  
BY APPROPRIATIONS AND CHARACTER

YEAR ENDED MARCH 31, 1971

INCOME ACCOUNT

1820 Alberta Forest Service—Forest Land Use	1821 Alberta Forest Service—Forestry Maintenance	1822 Alberta Forest Service—Forest Fire Control	1823 Alberta Forest Service—Forest and Prairie Fires Suppression	1825 Alberta Forest Service—Aircraft Operations	1826 Alberta Forest Service—Radio Branch	1828 Alberta Forest Service—Forestry Technology School	1829 Junior Forest Rangers	1835 Fish and Wildlife Division	1836 Wildlife Damage Control	1845 Lands Division	1846 Provincial Parks	Totals
\$ —	\$ 301.28	\$ —	\$ 581.78	\$ 2,313.22	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 4,863.24	\$ 351.11	\$ 14,064.74
7,913.55	328,337.05	—	—	—	—	—	5,595.00	120,829.07	1,273.57	19,232.75	259,097.52	760,628.31
572.43	474,479.19	220.41	206,481.81	145,514.00	—	8,321.60	1,073.91	49,350.42	—	15,475.86	162,281.25	1,079,690.79
—	—	—	—	—	—	—	—	595.00	—	—	9,940.00	10,535.00
—	—	—	—	—	—	—	—	—	—	—	—	152.84
—	1,463.35	—	4,675.93	—	—	—	400.00	—	—	980.00	1,074.50	8,814.53
533.23	178,696.02	—	308,519.20	172,482.07	8,060.72	—	—	4,691.01	827.84	32,316.65	41,210.87	1,045,182.58
3,579.16	3,286.00	149.25	10,044.76	11,046.89	—	1,083.15	—	3,827.37	—	1,003.45	4,198.16	48,131.85
575.20	9,701.25	—	63,314.57	761.57	595.71	834.70	—	15,072.23	—	1,972.14	8,274.98	157,070.62
979.23	49,631.21	6,023.04	26,238.50	15,322.89	10,906.98	7,431.98	104.07	31,074.67	839.65	8,390.33	61,179.81	312,892.73
—	—	—	—	—	—	—	—	9,000.00	—	—	—	36,187.75
—	930.00	—	856.80	9,500.00	—	—	—	415.93	—	531.14	6,657.01	19,363.68
—	—	—	3,721.12	—	—	—	—	—	—	4,687.61	—	8,408.73
—	—	—	561.85	—	—	28,927.15	—	—	—	—	—	29,489.00
22,180.59	56,125.08	16,904.19	497,116.65	2,770.83	3,601.63	41,732.29	11,300.10	100,192.76	880.12	64,065.08	62,417.14	1,293,115.61
778.47	92,134.50	9,155.09	19,430.92	2,117.19	9,841.68	1,335.80	1,493.78	14,851.41	—	24,154.64	157,626.20	348,685.93
379.35	85.90	189.08	79.95	5.75	37.06	227.49	14.40	190.80	41.20	119.25	104.16	2,173.21
—	1,091.84	—	—	—	—	207.04	—	12,683.52	—	12,928.34	2,497.94	56,805.51
62,359.07	318,859.05	425.00	1,962,622.44	147,311.99	2,926.25	4,424.37	3,685.53	31,933.40	—	17,279.02	88,620.01	2,962,248.73
—	31,390.85	15,074.66	34,635.83	705.94	1,980.84	1,357.71	285.81	3,381.66	—	679.43	13,240.77	107,585.86
319.12	705.53	—	—	—	178.30	980.28	—	4,051.76	—	4,332.28	1,512.63	28,899.33
153,476.97	315,949.91	167,516.21	—	—	52,860.22	122,914.00	—	1,194,066.44	—	918,850.24	626,762.08	8,740,380.77
—	306.20	—	—	—	—	—	—	—	—	70,120.71	—	70,426.91
1,917.91	2,589.24	3,895.79	19,458.65	2,138.08	417,430.39	2,045.13	—	52,297.46	—	14,610.64	47,480.64	607,716.46
—	336.84	—	25,233.04	—	—	3,890.85	874.95	113.25	—	—	—	37,479.81
6,489.93	30,331.34	6,658.52	26,680.74	566.48	1,685.20	16,690.73	1,203.24	213,304.45	1,521.73	84,802.70	96,149.27	752,324.21
—	—	—	—	—	—	—	—	156.00	—	1,577.75	235.00	4,011.87
128.10	3,218.68	—	2,191.62	—	552.47	286.88	—	192.08	—	813.05	5,265.52	18,215.01
29,682.51	114,359.66	—	3,435.67	—	127.31	834.97	227.22	3,171.42	—	394.47	81,321.68	206,068.23
—	454,046.65	33,117.36	1,330,476.94	31.65	59,845.07	30,544.17	30,269.31	54,380.88	334.40	115,040.99	878,677.60	3,508,608.19
\$291,864.82	\$2,468,356.62	\$259,328.60	\$4,546,358.77	\$512,588.55	\$570,629.83	\$274,070.29	\$56,527.32	\$1,919,822.97	\$5,718.51	\$1,419,221.76	\$2,616,175.85	\$22,275,488.52

## AL ACCOUNT

Construction	1883 Capital Land Purchase	1885 Lands and Grazing Development	1886 Parks Development	1888 Agricultural Rehabilitation and Development Act	Totals
09.64	\$ —	\$ —	\$ —	\$ —	\$ 109.64
165.40	—	—	—	—	16,465.40
79.27	—	—	482.37	2,171.41	5,533.05
90.00	—	5,495.00	—	—	36,285.00
55.03	—	43,237.75	44,290.10	514,789.68	748,580.06
79.45	—	506.80	1,048.64	243.00	3,077.89
44.47	—	—	1,032.00	7,600.96	21,377.43
74.50	—	1,021.53	7,060.25	7,588.26	37,744.54
—	1,176.00	—	—	—	1,176.00
—	—	—	—	9,208.12	9,208.12
59.89	—	—	—	115,727.42	126,987.31
69.34	—	131.74	30,339.67	61,582.60	341,223.35
9.00	—	50.25	100.67	238.38	398.30
03.93	—	—	8,223.13	261,482.15	468,709.21
86.75	—	—	—	326.01	1,012.76
—	—	—	—	4,383.00	4,383.00
88.69	—	—	—	—	288.69
74.20	—	—	—	—	374.20
30.43	—	—	—	3,533.49	4,863.92
39.53	—	—	233.10	893.05	2,165.68
71.10	—	—	736.30	392.92	1,500.32
82.71	—	129.11	33,109.46	90,105.84	270,227.12
13.33	\$1,176.00	\$50,572.18	\$126,655.69	\$1,080,266.29	\$2,101,690.99

## STATEMENT OF DISBURSEMENT

FROM APRIL 1, 1966 TO MARCH 31, 1967

FISCAL YEAR ENDED MARCH 31, 1967

## INCOME:

1801	Minister's Office
1802	General Administration
1803	Advisory Board & Committees
1804	Technical Division
1805	Registration Division
1815	Alberta Forest Service-Forest Administration Branch
1816	Alberta Forest Service-Forest Management Branch
1817	Quota Reforestation
1818	Silviculture
1819	Eastern Rockies Forest Conservation Board
1820	Forest Land Use
1821	Alberta Forest Service-Forest Protection Branch
1822	Alberta Forest Service-Forest Fire Control
1823	AFS-Forest & Prairie Fires Suppression
1824	Alberta Forest Service-Forest Surveys Branch
1825	Alberta Forest Service-Aircraft Operations
1826	Alberta Forest Service-Radio Branch
1828	Alberta Forest Service-Forestry Training School
1829	Junior Forest Rangers
1835	Fish and Wildlife Division
1836	Destruction of Pests
1845	Lands Division
1846	Provincial Parks
1847	Rural Recreational Grants

## CAPITAL

1881	Aerial Photography & Forest Inventory
1882	Forestry Construction
1883	Land Purchase (Capital)
1885	Lands & Grazing Development
1886	Parks Development
1888	Agricultural Rehabilitation and Development Act



## LANDS AND FORESTS

## STATEMENT "F"

## STATEMENTS BY BRANCHES

TO MARCH 31, 1971

YEAR ENDING:

MARCH 31/67	MARCH 31/68	MARCH 31/69	MARCH 31/70	MARCH 31/71
\$ 20,551.14	\$ 25,386.66	\$ 20,208.72	\$ 27,476.36	\$ 25,611.98
389,716.44	452,076.04	583,214.28	644,018.57	664,335.71
511.28	819.47	827.30	771.45	2,703.25
573,258.13	526,243.94	519,932.75	795,147.54	845,511.16
155,169.05	179,985.47	180,949.47	207,097.62	229,084.75
2,377,315.12	2,797,285.72	3,036,168.67	3,646,605.34	3,963,462.72
736,811.95	795,613.56	791,844.37	626,331.82	699,778.07
	287,915.69	170,094.75	99,528.66	109,356.06
			403,915.55	718,471.02
71,795.55	80,382.27	92,363.97	77,127.08	76,509.91
			197,320.89	291,864.82
2,833,724.13	2,394,111.41	2,475,421.86	3,086,231.79	2,468,356.62
			328,214.45	259,328.60
1,548,034.82	2,382,731.84	5,472,305.52	2,671,020.80	4,546,358.77
356,171.85	470,068.35	524,282.76		
661,689.90	618,903.30	498,104.29	620,212.73	512,588.55
453,788.63	511,565.13	502,869.42	551,165.79	570,629.83
237,956.77	226,504.17	208,283.31	259,204.33	274,070.29
33,352.77	43,372.12	40,717.06	51,939.05	56,521.32
1,307,432.49	1,541,022.76	1,578,127.99	1,797,101.78	1,919,822.97
22,620.34	15,903.31	3,421.90	3,679.37	5,718.51
943,694.37	1,096,494.73	1,195,674.60	1,331,169.74	1,419,221.76
1,749,392.82	1,987,251.91	1,970,786.53	2,414,374.62	2,616,175.85
89,726.50	51,969.07			
14,562,714.05	16,485,606.92	19,865,599.52	19,839,655.33	22,275,488.52
13,324.57	40,645.04	27,396.00	34,973.04	28,907.50
653,725.25	944,180.65	778,533.11	678,395.22	814,113.33
141,803.59	37,238.12	65,000.44	23,700.00	1,176.00
	119,424.27	37,897.21	95,847.90	50,572.18
	261,846.57	120,585.34	131,122.72	126,655.69
				1,080,266.29
808,853.41	\$ 1,403,334.65	\$ 1,029,412.10	\$ 964,038.88	\$ 2,101,690.99

OS AND FORESTS

STATEMENT "F"

ENTS BY BRANCHES

MARCH 31, 1971

NDING:

MARCH 31/67	MARCH 31/68	MARCH 31/69	MARCH 31/70	MARCH 31/71
\$ 20,551.14	\$ 25,386.66	\$ 20,208.72	\$ 27,476.36	\$ 25,611.98
389,716.44	452,076.04	583,214.28	644,018.57	664,335.71
511.28	819.47	827.30	771.45	2,703.25
573,258.13	526,243.94	519,932.75	795,147.54	845,511.16
155,169.05	179,985.47	180,949.47	207,097.62	229,084.75
2,377,315.12	2,797,285.72	3,036,168.67	3,646,605.34	3,963,462.72
736,811.95	795,613.56	791,844.37	626,331.82	699,778.07
—	287,915.69	170,094.75	99,528.66	109,356.06
—	—	—	403,915.55	718,471.02
71,795.55	80,382.27	92,363.97	77,127.08	76,509.91
—	—	—	197,320.89	291,864.82
2,833,724.13	2,394,111.41	2,475,421.86	3,086,231.79	2,468,356.62
—	—	—	328,214.45	259,328.60
1,548,034.82	2,382,731.84	5,472,305.52	2,671,020.80	4,546,358.77
356,171.85	470,068.35	524,282.76	—	—
661,689.90	618,903.30	498,104.29	620,212.73	512,588.55
453,788.63	511,565.13	502,869.42	551,165.79	570,629.83
237,956.77	226,504.17	208,283.31	259,204.33	274,070.29
33,352.77	43,372.12	40,717.06	51,939.05	56,527.32
1,307,432.49	1,541,022.76	1,578,127.99	1,797,101.78	1,919,822.97
22,620.34	15,903.31	3,421.90	3,679.37	5,718.51
943,694.37	1,096,494.73	1,195,674.60	1,331,169.74	1,419,221.76
1,749,392.82	1,987,251.91	1,970,786.53	2,414,374.62	2,616,175.85
89,726.50	51,969.07	—	—	—
14,562,714.05	16,485,606.92	19,865,599.52	19,839,655.33	22,275,488.52
13,324.57	40,645.04	27,396.00	34,973.04	28,907.50
653,725.25	944,180.65	778,533.11	678,395.22	814,113.33
141,803.59	37,238.12	65,000.44	23,700.00	1,176.00
—	119,424.27	37,897.21	95,847.90	50,572.18
—	261,846.57	120,585.34	131,122.72	126,655.69
—	—	—	—	1,080,266.29
808,853.41	\$ 1,403,334.65	\$ 1,029,412.10	\$ 964,038.88	\$ 2,101,690.99

## EDUCATION AND INFORMATION DIVISION

C. E. HAGLUND, SUPERVISOR

An increase in the number of news releases, greater participation with the electronic media, and a substantially stepped-up Hunter Training Program produced a busy year for the Education and Information Division. In addition, division personnel handled a noticeably increased number of written and phoned requests for general information from the public.

Publications produced by the division during the year were as follows:

### New Publications:

1970 Game Regulations Summary  
 1971 Angling Regulations Summary  
 1970 Fish Planting List  
 Diving Ducks of Alberta  
 Puddle Ducks of Alberta  
 Swans, Cranes and Geese of Alberta  
 Project Metlite — 1969 Field Progress and Preliminary Results  
 The Limnology and Fishery Management of Rock Lake, Alberta  
 A Guide to Sport Fishing — Lethbridge Region  
 1969-70 Annual Report  
 Alberta, Lands-Forests-Parks-Wildlife:      Spring, 1970 issue  
    Summer, 1970 issue  
    Fall,      1970 issue partly printed.

Alberta Junior Forest Rangers

### Reprints or Revisions:

Guides for Controlling Erosion (new cover)  
 Alberta Forests  
 Parks and Recreation Areas — Foothills Region (new map)  
 Range, Its Nature and Use (new cover and some changes)  
 Fishing in Alberta (new map)  
 Bertie Beaver Coloring posters  
 Information Bulletin # 3 (The Striped Skunk)  
 Wildlife Management Bulletin  
 Hunter Training Manuals — Student

Hunter Training courses increased by 15%, reflecting a new interest within the school systems in Edmonton and Calgary. Details are as follows:

## HUNTER TRAINING — CONSERVATION

## STUDENT COURSES

1st April 1970 — 31st March 1971

LOCATION	TOTAL # COURSES	SUCCESSFUL STUDENTS	UNSUC. STUDENTS
Athabaska*	1	24	3
Barrhead	2	40	3
Bowden*	1	7	7
Breton	1	16	10
Bruderheim	1	29	0
Calgary	5	119	1
Calgary*	8	164	58
Cardston*	1	20	0
Coaldale	1	11	0
Cold Lake	4	164	2
Delbonita	1	13	4
Dickson — Spruceview*	1	24	10
Drayton Valley	1	10	0
Eckville*	1	6	24
Edmonton	16	357	22
Edmonton*	12	278	12
Edson	1	24	0
Endiang	1	8	2
Fairview*	4	64	9
Fort McMurray	2	61	0
Fort Saskatchewan	2	42	2
Grande Prairie	1	2	2
Griesbach — Namao	1	12	0
High River	1	24	0
Innisfail*	1	67	27
Lacombe	1	36	2
Lac La Biche	2	31	0
Lethbridge	2	27	6
Monitor	1	25	1
Nanton	1	12	9
Peace River	1	15	11
Rocky Mountain House*	2	136	7
St. Albert	3	55	0
Sherwood park	1	31	0
Stavely	1	15	11
Stettler	1	15	10
Stony Plain*	4	47	4
Taber	1	10	7
Thorsby	1	12	2
Wainwright	1	20	1
Total Schools*	37	845	157
Total Others	57	1,224	110
TOTAL	94	2,069	267

INSTRUCTORS COURSES  
1st April 1970 – 31st March 1971

LOCATION	TOTAL # COURSES	SUCCESSFUL INSTRUCTORS	UNSUC. INST'.
Breton	1	2	0
Camrose	1	12	1
Calgary	3	13	0
Cardston	1	4	0
Cold Lake	1	14	0
Del Bonita	1	2	0
Eckville	1	14	0
Edmonton	6	77	0
Edson	1	9	0
Grande Prairie	2	30	0
Kinuso	1	13	0
High Prairie	1	13	0
High River	1	1	0
Hinton	1	29	0
Manning	1	36	0
Medicine Hat	1	7	0
Olds	1	10	0
Peace River	1	11	2
Red Deer	1	2	0
Rocky Mountain House	1	10	0
St. Paul	1	16	0
Stettler	1	16	0
Wainwright	1	17	0
Wetaskiwin	1	8	0
Willington	1	4	0
	33	380	3

“Pilot” outdoor Hunter Training camps were held in co-operation with several Edmonton High Schools during the spring of 1970. The schools taking part in these “pilot” courses were:

Victoria Composite High School  
McNalley Composite High School (Separate)  
Eastglen Composite High School  
Queen Elizabeth Composite High School  
Ross Shepard Composite High School  
Harry Ainsley Composite High School

Physical Education students (Male & Female) took part in these outdoor Hunter Training-Conservation camps. Camps were held in the Lac La Biche area near Beaver Lake. Response from the School Boards was so great that a permanent Hunter Training-Conservation Camp location was needed.

A permanent Hunter Training-Conservation outdoor training camp was established 85 miles north of the City of Edmonton at Narrow Lake. The first group of students to use the new Narrow Lake facilities were Recreation Administration students from the University of Alberta. The dates of this camp were March 4, 5, 6, 7.

## PERSONNEL

### REPORT OF THE PERSONNEL OFFICER

*D. E. MASSIG*

The personnel function in Lands and Forests and the government generally continued at a high pace through the 1970-71 Fiscal Year.

Some highlights during the year were:

1. Revisions to the Public Service Act decentralizing the recruitment and selection function to departments.
2. Introduction of a Temporary Staff Service program.
3. Initial steps taken to decentralize on a limited basis the classification function to departments.
4. Amendments to the Public Service Act providing for a three member Mediation Board to assist the parties in reaching a settlement when an impasse occurs during negotiations.

On October 1, 1970 the official decentralization of the selection function was delegated to departments. Under this arrangement competitions were handled by departments and there was no longer any official representation on selection panels by members of the Central Personnel Office. This program introduced a practical approach and method of administering the career service concept through the designation of competitive standards.

A new program was instituted by the government using the services of Canada Manpower to acquire clerical personnel in all government offices located outside Edmonton and Calgary. This program allows departments to utilize Canada Manpower's professional staff to recruit, test, certify and refer suitably qualified clerical candidates from the community to managers of departmental offices for permanent position vacancies.

A Temporary Staff Services program commenced on August 1, 1970 to supply departments of government with temporary clerical staff required for holiday relief, cover-off during periods of illness and the additional assistance required during peak work periods. The qualifications for temporary staff are the same as for permanent staff. Management in Calgary and Edmonton gained the opportunity to employ personnel on a part-time basis in situations where the workload was too heavy for current staff but was not sufficient to warrant another full-time staff member.

Phase 1 of the program to decentralize classification to departments has been delayed temporarily due to various administrative problems. It is now expected some time in early 1972.

The Public Service Act was amended at the 1970 session of the legislature and now provides that a three member Mediation Board can be authorized to try to assist the parties to reach a settlement when an impasse occurs during negotiations. If settlement is not reached, the board issues recommendations which may be accepted or rejected by either side.



While the mediation feature allowed the intervention of a third party into the process of negotiations for the first time, it is expected that the Civil Service Association of Alberta will continue to press strongly for additional bargaining rights, including the right to withdraw services. The Civil Service Association, in late 1970, formally expressed their interest in obtaining the following labor law amendments through a formal brief to a committee of cabinet:

- application of the Alberta Labour Act to the process of certification of bargaining units by occupational groups.
- bargaining agency option for either binding arbitration or conciliation to resolve disputes.
- establishment of a Public Service Labour Relations Board, for the purposes of regulating the appointment of Conciliation and Arbitration Boards, and identifying employees ineligible to withdraw services.

## RECRUITMENT AND SELECTION

Recruitment and selection continued at its normal level during the year. There were 168 competitions conducted within the department comprised of the following: 70 departmental competitions, 46 open competitions and 52 appointments from eligible lists.

Technical School recruiting was conducted at our Forestry Training School at Hinton, the Northern Alberta Institute of Technology (Edmonton) and the Saskatchewan Institute of Applied Arts and Sciences (Saskatoon). As a result, a number of Forestry Officer, Fish and Wildlife Officer, Fish and Wildlife Technician, and Technologist positions were filled.

The employment of summer assistance for work on various projects maintained the same level as in 1969-70. Wherever possible, preference was given to employ personnel who were enrolled in the resources area at the University of Alberta and the Northern Alberta Institute of Technology.

Response to the Junior Forest Ranger program was excellent with 286 applications received. Sixty young men were selected to fill positions at six camps in the Clearwater-Rocky, Crowsnest, Edson and Grande Prairie Forests.

Interest by the general public in employment with the department was at a steady rate with over 2300 requests for information received and answered. The largest amount of these were received from University and High School graduates in both Canada and the United States.

## CLASSIFICATION AND PAY

Due to increased work load and new programs, 22 new positions were created in the 1970-71 Estimates.

A total of 85 requests for position reclassification was handled during the year. Of this amount, 39 positions were reclassified, 38 positions remained unchanged and eight positions were updated. There were three Classification Appeals during the year; of these, one was successful and two were rejected by the board.

A classification series review was conducted over a period of nine months for Forestry Officer, Fish and Wildlife Officer and Park Officer Classes. A comprehensive comparison was made with the comparable British Columbia Civil Service positions in regard to duties and responsibilities as well as pay levels.

The two year collective agreement between the Civil Service Association and the Government of Alberta expired on December 31, 1970. Negotiations for the new contract commenced on October 1, 1970 and were still under negotiation as of March 31, 1971.

## STAFF TRAINING AND DEVELOPMENT

One employee was on Education Leave during 1970 and 56 employees received course subsidization ranging from 50% to 85% of course fees. The majority of courses were taken at the University of Alberta (Edmonton and Calgary campuses) as well as the Northern and Southern Alberta Institutes of Technology.

A number of staff attended the various seminars and conferences offered during the Fiscal Year with the actual breakdown as follows:

Senior Management Conference	1
Middle Management Conference	6
Advanced Supervisory Courses	16
Basic Supervisory Courses	21

### Seminar Workshops:

—Communication	85
—Discipline	72
—Motivation	78
—Performance Appraisal	74
—Personnel Practices	66

Chief Ranger Supervisory Course	11
Advanced Ranger Course	19
Management by Objectives Seminar	21

## EMPLOYEE RELATIONS

Due to the proposed implementation date of the Grievance Procedure on July 1, 1970, a series of meetings were conducted in order to familiarize the 46 "Designated Officers" in the department with their function and role in the new procedure. Due to problems associated with the Collective Agreement it is not anticipated that the Grievance Procedure will be implemented prior to January 1, 1972.

Since contract administration of the new Collective Agreement and the Grievance Procedure will produce new demands on departmental management, a monthly newsletter known as "Collective Capers" was instituted in December 1970. This publication covers various selected Arbitration Board cases from both the private and public sectors. The main purpose is to focus attention on potential problem areas by utilizing actual case histories and the resulting decision in order to effectively assist our management in dealing with employee complaints that could possibly result in grievance action.

During the year eleven employees retired. Mr. E. P. Shaver, Director of Parks, re-

tired December 1970 after completing more than 40 years of government service and Mr. F. Bryenton retired in August 1970 after completing 39 years of service.

The following employees retired with 20 or more years of service: Irvin Frew, Patrick Donnelly, Franklin LaFoy, William Ferguson, Emilia Hoagg and Pearl Rabidou. Other retirements were Naomi Miller, John Sunderman and Leroy Erickson.

## PERSONNEL

## MINISTER'S OFFICE

- 1 Minister
- 1 Secretary

2

## DEPUTY MINISTER'S OFFICE

- 1 Deputy Minister
- 1 Crown Solicitor
- 1 Departmental Personnel Officer
- 1 Personnel Admin. Officer
- 1 Resources, Info., & Publicity Supv.
- 4 Conservation Training Officers
- 1 Illustrator
- 2 Clerks
- 3 Clerk Stenographers
- 4 Clerk Typists

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## ACCOUNTS BRANCH

- 4 Accountants
- 3 Bookkeeping Machine Operators
- 1 Comptometer Operator
- 1 Duplicating Equipment Operator
- 1 Automotive Equipment Operator
- 2 Stores Clerks
- 38 Clerks
- 3 Clerk Stenographers
- 19 Clerk Typists

70

## TECHNICAL DIVISION

- 4 Technical Officers
- 1 Land Surveyor
- 2 Foresters
- 1 Agrologist

- 57 Technologists
- 3 Duplicating Equipment Operators
- 8 Aerial Photo. Processors
- 3 Clerk Stenographers
- 4 Clerk Typists
- 5 Clerks
- 1 Biologist
- 1 Land Use Assignment Supv.
- 1 Public Lands Appraiser

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## REGISTRATION DIVISION

- 2 Administrative Officers
- 1 Systems Analyst
- 1 Clerk Stenographer
- 4 Technologists
- 32 Clerks
- 3 Clerk Typists
- 1 Automotive Equipment Operator
- 1 Library Technician

45

FORESTRY DIVISION  
(Forest Administration Branch)

- 1 Forestry Director
- 1 Administrative Officer
- 42 Foresters
- 27 Clerks
- 7 Clerk Stenographers
- 11 Automotive Mechanics
- 11 Senior Lookouts (Permanent)
- 15 Lookouts (Permanent)
- 151 Lookouts (Seasonal)
- 25 Clerk Typists

16	Automotive Equipment Operators
9	Road Foremen
3	Radio Operators
12	Forest Communication Officers
11	Carpenters
120	Forestry Officers I
99	Forestry Officers II & III
4	Airport Keepers
12	Forest Warehousemen
4	Stockkeepers
1	Technologist
1	Forest Safety Analyst

583

## TIMBER MANAGEMENT BRANCH\*

13	Foresters
1	Administrative Officer
1	Timber Scaling Supv.
4	Timber Auditors
9	Clerks
5	Clerk Stenographers
6	Clerk Typists
8	Technologists

47

## FOREST LAND USE BRANCH

12	Foresters
1	Forestry Officer
3	Technologists
3	Clerk Typists
2	Clerks
1	Clerk Stenographer
1	Forestry Land Use Co-ordinator

23

CONSTRUCTION & MAINTENANCE  
BRANCH

2	Maintenance Supervisors
1	Forest Equipment Artisan
2	Plumbers
2	Electricians
1	Clerk Stenographer
1	Clerk Typist
1	Forester
1	Sign Painter & Designer

1	Forestry Road Supv.
4	Clerks
1	Mechanical Equip. Shop Supv.
2	Technologists
2	Engineers
4	Carpenters
1	Spray Painter
1	Labourer
1	Maintenance Worker
2	Automotive Mechanics
2	Road Foremen
2	Automotive Equip. Operators
3	Engine Generator Technicians
1	Administrative Officer

38

## RADIO DIVISION

1	Communications Liaison Officer
3	Radio Operators
1	Clerk Typist
1	Clerk
1	Communication Technician

7

## FORESTRY TRAINING SCHOOL

1	F.T.S. Superintendent
7	Instructors
1	Clerk
1	Clerk Typist
1	Clerk Stenographer
1	Stockkeeper

12

## FOREST FIRE CONTROL BRANCH

1	Para Cargo Officer
5	Foresters
1	Fire Weather Officer
3	Aircraft Dispatchers
3	Technologists
1	Fire Control Dispatcher
2	Clerks
2	Clerk Stenographers
1	Meteorologist

19

EASTERN ROCKIES FOREST  
CONSERVATION BOARD

- 1 Forester
- 2 Technologists
- 1 Clerk Typist
- 4

## FISH &amp; WILDLIFE DIVISION

- 1 Fish & Wildlife Director
- 1 Fish & Wildlife Administrator
- 1 Administrative Officer
- 1 Wildlife Research Centre Supt.
- 3 Fish & Wildlife Research Biologists
- 4 Biologists I
- 15 Biologists II
- 2 Biologists III
- 2 Biologists IV
- 20 Fish & Wildlife Officers I
- 47 Fish & Wildlife Officers II
- 8 Fish & Wildlife Officers III
- 1 Fish & Wildlife Officers IV
- 15 Fish & Wildlife Technicians
- 1 Laboratory Technician
- 1 Wildlife Culturist I
- 1 Wildlife Culturist II
- 1 Fish Culturist I
- 3 Fish Culturists II
- 1 Fish Culturist III
- 1 Fish Culturist IV
- 1 Automotive Mechanic
- 1 Clerk
- 34 Clerk Stenographers
- 28 Clerk Typists

194

## PROVINCIAL PARKS DIVISION

- 1 Director of Parks
- 1 Parks Planning Supv.
- 1 Parks Management Supv.
- 3 Parks Planners
- 1 Engineer
- 1 Geographer
- 1 Landscape Architect
- 1 Administrative Officer
- 1 Maintenance Supervisor
- 3 Maintenance Workers
- 16 Parks Officers I
- 14 Parks Officers II
- 5 Parks Officers III
- 1 Parks Officer IV
- 1 Forestry Officer III
- 5 Automotive Equipment Operators
- 4 Automotive Mechanics
- 7 Technologists
- 2 Stockkeepers
- 4 Carpenters
- 1 Electrician
- 1 Painter
- 1 Museum Display Artist
- 3 Clerks
- 4 Clerk Stenographers
- 4 Clerk Typists

87

TOTAL PERSONNEL: 1,386

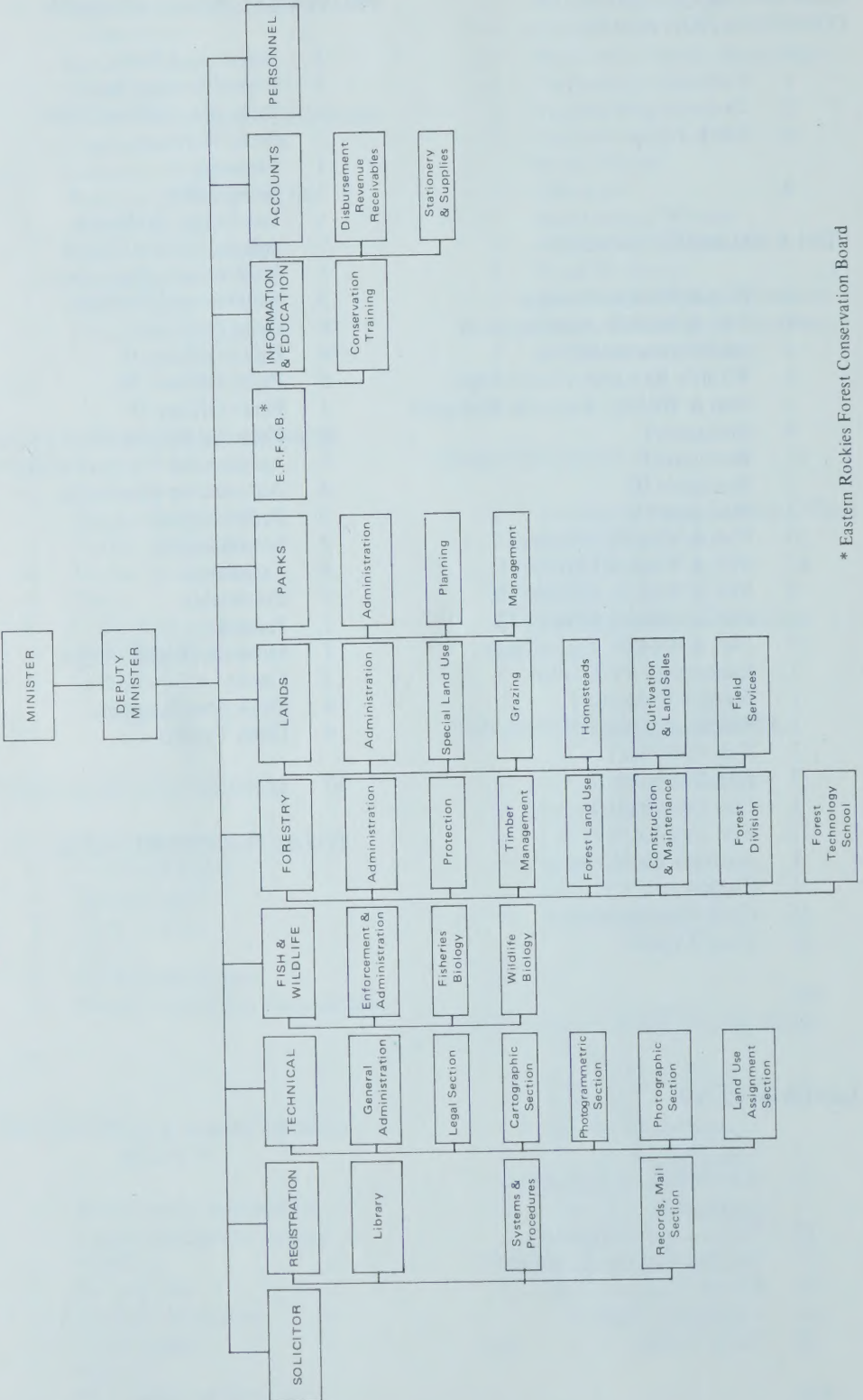
## LANDS DIVISION

- 1 Director
- 7 Administrative Officers
- 2 Agrologists
- 30 Public Lands Appraisers
- 11 Grazing Reserve Attendants
- 45 Clerks
- 11 Clerk Stenographers
- 38 Clerk Typists

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# ORGANIZATION DEPARTMENT OF LANDS AND FORESTS



\* Eastern Rockies Forest Conservation Board







